A STUDY OF POLYSEMY ON CHINESE BODY-PART TERMS *TOU* 'HEAD' AND *YAN* 'EYE': A COGNITIVE APPROACH

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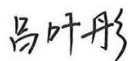
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ABSTRACT

Polysemy, or the association of two or more related meanings with a single linguistic form (Taylor, 1995, p.99), is ubiquitous in language and receives attention from many linguistic disciplines. Cognitive linguists interpret the meanings of polysemous words based on conventional conceptual structures, as the identification of polysemy involves the conceptualization of everyday life.

Based on the principles of cognitive linguistics, this study analyzes polysemy through an in-depth examination of Chinese body-part terms, namely *tou* 'head' and *yan* 'eye', in order to unfold the internal relationships among the meanings of polysemous words.

According to the findings, first, the original or literal meanings of body-part terms *tou* 'head' and *yan* 'eye' refer to the body parts 'head' and 'eye'. Each body-part term is composed of various related meanings; among these are a prototypical or literal meaning and peripheral or extended meanings. Second, the formation of meanings of each body-part term is a process of category extension, and metaphor and metonymy are two important cognitive mechanisms for category extension. Third, this study analyzes the structural patterns of literal and extended meanings of *tou* 'head' and *yan* 'eye'. The meanings of each body-part term are associated with different parts of speech, establishing highly entrenched structural patterns to directly differentiate literal and extended meanings of each body-part term.

Based on the cognitive-linguistic analysis of Chinese body-part terms, the meanings of a polysemous word are closely related and form a prototype-based

semantic network. However, the polysemous meanings have few attributes in common and have their own representations respectively. Also, they are not interpreted independently but are contextually modulated.

A cognitive-linguistic study of Chinese body-part terms will offer insight into the internal construction of polysemy, foster better understanding of various meanings of Chinese body-part terms, and benefit communication among speakers who take Chinese as a native or foreign language.

Keywords: polysemy, cognitive linguistics, body-part terms, prototype, metaphor, metonymy, structural pattern

ABSTRAK

Polisemi, atau hubungan antara dua atau lebih maksud yang berkatian di dalam satu perkataan (Taylor, 1995, p.99), sering dijumpai dalam bahasa dan mendapat tumpuan dari banyak bidang bahasa. Ahli bahasa kognitif mentafsirkan maksud perkataan polysemous berdasarkan struktur konsep yang biasa kerana pengenalan polisemi melibatkan konsep kehidupan seharian.

Berdasarkan prinsip linguistik kognitif, kajian ini mengkaji polisemi melalui kajian mendalam istilah anggota badan bahasa Cina, iaitu *tou* 'kepala' dan *yan* 'mata', untuk merungkai hubungan dalaman antara perkataan polisemi.

Berdasarkan penemuan yang didapati, pertama sekali, maksud literal istilah anggota badan *tou* 'kepala' dan *yan* 'mata', merujuk kepada anggota badan 'kepala' dan 'mata'. Setiap istilah anggota tubuh badan ini terdiri daripada pelbagai maksud yang berkaitan; antaranya maksud prototaip atau literal dan juga maksud luaran atau lanjutan. Kedua, penghasilan maksud setiap istilah anggota badan adalah proses perkembangan kategori, metafora dan metonimi merupakan dua mekanisma kognitif yang penting untuk perkembangan kategori. Ketiga, kajian ini menganalisa corak struktur maksud literal dan lanjutan *tou* 'kepala' dan *yan* 'mata'. Maksud setiap terma anggota badan adalah berhubung dengan pelbagai bahagian pengucapan, yang mewujudkan asas struktur yang mantap untuk membezakan literal dan maksud lanjutan setiap istilah anggota badan.

Berdasarkan analisa kognitif-linguistik isitilah anggota badan bahasa Cina, maksud perkataan polisemi berkait rapat dan membentuk rangkaian semantic

berasaskan prototaip. Walau bagaimanapun, maksud polisemi mempunyai beberapa persamaan ciri-ciri dan mempunyai maksud tersendiri. Ia tidak ditafsirkan secara tersendiri tetapi dipengaruhi konteks.

Kajian kognitif-linguistik istilah anggota badan bahasa Cina ini akan memberi gambaran kepada pembentukan dalaman polisemi, menghasilkan pemahaman yang lebih tentang kepelbagaian maksud istilah anggota badan bahasa Cina dan memberi manfaat dalam komunikasi dikalangan penutur bahasa Cina sebagai bahasa ibunda atau bahasa asing.

Kata kunic: polisemi, kognitif linguistik, terma anggoa badan, prototaip, metafora, metonimi, corak struktur

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ASP = aspect

CL = classifier

MOD = modifier

NEG = negation

POSS = possessive

SUFF = suffix

CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter introduces the basic concepts of this study. It starts with the background of the study, providing a concise description of the topic *A Study of Polysemy on Chinese Body-part Terms tou 'head' and yan 'eye': A Cognitive Approach*. A brief overview of previous cognitive-linguistic approaches to polysemy is presented, and their issues are described. Then, the problems existing in the previous studies of polysemy are stated. Besides, this study maps out the purpose and research questions that guide the whole study. Finally, the importance and contributions of the study are given.

1.1 Background of the Study

Polysemy, or "the association of two or more related meanings with a single linguistic form" (Taylor, 1995, p.99), is both ubiquitous and abundant in human language. For instance, in *Modern Chinese Dictionary* (2012), the ratio of polysemous words is approximately 14.8%; the occurrence of polysemous words in Chinese corpus reaches 42% (Zhang, Gong & Wang, 2005, p.925). Lexical items are highly polysemous, particularly for those frequently used.

Meaning as a primary focus plays a central role in the field of language. At the same time, the diversity of lexical meanings grows with the needs of everyday usage. In order to meet expressive needs, speakers turn to creating new words or giving the same word additional meanings. The original and extended meanings of a word coexist in both asynchronic and diachronic period, generating the phenomenon of polysemy.

Polysemy implicates the presence of more than one meaning of a lexical item in both context-bound and context-free situations. For example, *catch the chicken / order the chicken*, *see your pictures / see your opinions*, *a handsome guy / a handsome gift*. Multiplicity of meanings of words is a general feature of language. Polysemy is an economical and convenient means in conveying more effective information.

Polysemy has attracted considerable attention of linguists from different disciplines. Cognitive linguists interpret the meanings of a polysemous word based on their cognition, as the identification of polysemy involves the conceptualization of everyday life. Cognitive linguistics is defined as an "approach to language that is based on our experience of the world and the way we perceive and conceptualize it" (Ungerer & Schmid, 1996, p.x). Cognitive linguistics is a usage-based model of linguistic exploration and is identified by a comprehensive and non-autonomous view of language. It is compatible with the study of polysemy, and polysemy, until now, has been certainly taken as a central issue in the field of cognitive linguistics. Obviously, the study of polysemy is fundamental for any semantic research of language and cognition. Polysemy may therefore be viewed as a network of closely related principles of language, meaning and cognition. In other words, the study of polysemy must not ignore the role of human cognition in the interpretation of language meanings.

Lakoff (1987) posits that human cognition is based on bodily experience. The everyday language we use is the reflex of this bodily basis of human meaning (Brier, 2008, p.412). This determines the fundamental role of human body in cognizing the world. People often perceive and understand the outside world on the basis of the knowledge of their bodies; that is, our bodies influence the way we think and speak.

Body-part terms, with their related expressions, embody the way how human cognition is formed.

The body-part terms offer an ideal library for the study of polysemy. A body-part term is associated with multiple meanings, which in turn possess figurative meanings (Niemeier, 2000, p.203). The different readings of body-part terms reflect to some extent the contribution of human cognition. For example, body-part terms have been widely accepted as effective instruments to represent or depict objective parts and locative relationships that are reflected in languages (e.g., Matsumoto, 1999; Allan, 1995; Heine, 1995). Also, body-part terms are used to indicate logical and temporal relationships (e.g., Hollenbach, 1995) and activities encoded in linguistic expressions (e.g., Goossens, 1995; Pauwels & Simon-Vandenbergen, 1995). Lakoff and Johnson (e.g., 1980, 1999) emphasize the critical role played by the body in understanding of language, and they state that language reflexes and influences human thoughts through various ways.

The present study is part of a broader examination of the polysemous usages of Chinese body-part terms. In particular, this study chooses Chinese body-part terms 头 *tou* 'head' and 眼 *yan* 'eye'as objects. As we know, the external body parts 'head' and 'eye' are considerably important, and they are conceptualized as instruments to deal with the external world. The head is applied to the top (or front) position of the human (or animal) body. As humans, we use the head (seat of the brain) to perceive, think and understand the outside world. Differing from non-sentient beings, humans have consciousness and thoughts spurring us to be the most intelligent animals. The head consists of various sensory organs, such as the visual organ 'eye', the auditory organ

'ear', the olfactory organ 'nose', and the gustatory organ 'mouth'. Thus, the head is taken as the essence of the body. With respect to human eyes, they are near the top of the head, the position of which is salient. Providing the sense of sight, eyes help us to see the outside world and differentiate different colors and lights. The eye is considered one of the most important body parts, since 80% of knowledge and memory is acquired through the eye (Mei, 2011). Therefore, the eye is the fastest, most straightforward and effective portal for us to understand the world. This study posits that our everyday bodily experiences with heads and eyes set up the organized conceptual structures, upon which we construct more abstract and complicated concepts.

Based on the principles of cognitive linguistics, the present study explores the nature of meanings encoded in such polysemous words and the links existing among them. The author has chosen Chinese *tou* 'head' and *yan* 'eye' as object of this study.

1.2 Statement of Problems

First of all, based on a brief review of previous approaches to polysemy in different languages and cultures, studies of polysemous nouns have not been fruitful, though a great number of cognitive-linguistic studies have been conducted to investigate polysemous prepositions, verbs and adjectives. For instance, prepositions such as *over* (Kreitzer, 1997; Taylor, 2003), *through* (Martín, 2000), and *up* and *out* (Lindner, 1981); motion verbs such as *climb* (Taylor, 2003), Chinese *guo* 'to pass' (Wu, 2003), and Chinese *jiu* 'to help' (Liu, 1997); adjectives such as *long* (Fillmore, 1982), *fresh* (Murphy & Andrew, 1993), and *old, short* and *right* (Justeson & Katz, 1995). Studies of polysemy on different parts of speech to some extent reflect the fact that polysemous words are plentiful and ubiquitous in everyday language. They have received attention

of linguists to examine the mechanisms of their semantic extension from a cognitive point of view.

Nevertheless, there are limitations in Taylor's approaches to *over* and *climb* and Murphy and Andrew's approach to *fresh*. First, they made no distinction between what was encoded by the expression of a lexical item and the information that was sure to be triggered from the particular contexts, spatial relationships, and background knowledge of the world. Context exercises a great influence on the understanding of the lexical meanings. However, the meanings of words are not restricted in related contexts and maybe directly interpreted. It is thus necessary to clarify how the meanings of a word are encoded. Second, their studies did not explain why the target meaning(s) could be regarded as the central meaning(s), as well as had ability of deriving other meanings. The meaning extensions of polysemous words were still not comprehensively analyzed.

Although the studies of polysemous nouns have not been fruitful, the body-part nouns, which are ideal for the study of polysemy, are growing impressively in recent years. Here, previous cognitive-linguistic studies of body-part terms *head* and *eye* are reviewed, such as Siahaan's (2008) study of *head* and *eye*, Yu's (2009) study of *eye*, Li and Wen's (2006) study of *head*, and Qin's (2008) study of *eye* (see Section 2.1 & 2.2). However, a few crucial problems in these studies should be noted: first, data sources in some studies were restricted to dictionaries or were not mentioned, so the results could not be generalized; second, a distinction between the original and extended meanings of body-part terms was not well-documented; third, some patterns of semantic extension were not analyzed completely or correctly (which will be explained in detail in Sections 2.1 & 2.2).

Finally, since a polysemous word contains multiple related meanings, the identification of particular meanings of polysemous words in particular contexts is somewhat difficult, especially for the non-native speakers, sometimes becoming an obstacle in communication among different cultures. This study uses the cognitive-linguistic approach to explain how the extended meanings of a lexical item are achieved on the basis of the original (literal) meaning and generates the common principles of semantic extension, which allows us to understand new meanings of a lexical item.

The present study will fill the gaps of previous studies of polysemy, focus on the polysemous body-part nouns, and assign importance to resolving the problems in those studies. At the same time, the study will foster a better understanding of various meanings of Chinese body-part terms and benefit communication among speakers who take Chinese as a native or foreign language.

1.3 Purpose and Research Questions

This study analyzes polysemy through an in-depth examination of Chinese body-part terms such as *tou* 'head' and *yan* 'eye', aiming to unfold the internal relationships that exist among the meanings of a polysemous word. In order to achieve this, the study seeks to answer the following research questions:

(1) How can the prototype model be applied to both original and extended meanings of Chinese *tou* 'head' and *yan* 'eye'?

(2) How does category extension occur for Chinese *tou* 'head' and *yan* 'eye'?

(3) How do structural patterns differentiate between the literal and extended meanings of Chinese *tou* 'head' and *yan* 'eye'?

The three research questions are separately answered as below. In terms of the first research question, underlying the original (literal) and extended meanings of Chinese body-part terms *tou* 'head' and *yan* 'eye', the prototypical meaning of each body-part term, based on the prototype model of categorization (i.e., the prototype theory), will be identified. The author will explore how the literal meaning of each body-part term can be regarded as the prototypical meaning and what kinds of prototypical attributes the literal meaning has. At the same time, the author will explore how the prototypical (literal) meaning influences the choices of the extended meanings and what kinds of attributes the extended meanings have. It safely comes to the conclusion that the literal and extended meanings are to be grouped together owing to the related attributes and form a prototype-based semantic network. The second research question begins with the understanding of the notion of 'category extension'. Metaphor and metonymy are two cognitive mechanisms for category extension. Based on the collection of data, the author will explore how metaphor and metonymy can be regarded as the fundamentally motivated forces of semantic extension that exist between the literal and extended meanings of each body-part term. For the third research question, the structural patterns of literal and extended meanings of each body-part term will be examined in order to uncover how the structural patterns differentiate the polysemous meanings.

1.4 Significance of the Study

First, a cognitive-linguistic study of Chinese body-part terms will offer insight into the internal constructions of polysemy. Cognitive linguistics takes full advantage of human cognition in the interpretation of language meanings and recognizes that

polysemous meanings depend on our world experience as well as the means we use to cognize and understand them. At the same time, polysemous meanings do not exist independently but are conceptually related. The theories of cognitive linguistics examine the notion of 'relatedness' step by step. First of all, categorization indicates that the various meanings of a polysemous word are grouped together and form a polysemous category. Then, the prototype theory identifies the prototypical and peripheral meanings of a polysemous word. Finally, metaphor and metonymy explore how the peripheral meanings of a polysemous word are associated to the prototypical meaning(s). Actually, our bodies are what first communicate with the outside world and influence the ways we think and speak. Human language, mind and experience nourish each other; also, they are imbued with the concept of culture (Gibbs, 1999a, 2006).

Second, this study will foster a better understanding of various meanings of Chinese body-part terms. Human languages are prominent in terms of their long history and abundant lexical meanings. In order to meet the needs of everyday communication, the meanings of Chinese body-part terms are gradually evolved and extended. Most Chinese body-part terms are polysemous and the meanings (except the original or literal meaning) associated with them are figurative in nature. This study, on one hand, exemplifies the common usages of Chinese body-part terms *tou* 'head' and *yan* 'eye'; on the other hand, it clearly explains the relationships between various meanings of these two body-part terms from a cognitive point of view. Here, we have a deeper understanding of a way to interpret the predictable meanings of Chinese *tou* 'head' and *yan* 'eye' in future and a way to create and construct the new meanings of Chinese polysemous words.

Third, this study will benefit communication among speakers who take Chinese as a native or foreign language. In such a context, significantly, interlocutors are asked to know Chinese meanings in order to proceed with their conversation smoothly and successfully. However, communicative failure, which indicates that the hearer feels difficult to perceive and understand true meanings of the speaker's words, usually arises out of an unfamiliar context, since the hearer lacks of the related linguistic knowledge. Thus, communicative failure usually causes miscommunication between interlocutors, and the successful communication is highly expected to be achieved. According to the statistics, seventy percent of lexical meanings originate from conceptual metaphor in Chinese language (Zhao, 2000). Thus, Chinese is abundant in its figurative meanings. Since this study introduces the method of exploring and examining the meanings of Chinese polysemous words, it provides interlocutors, who take Chinese as a native or foreign language, an effective way in understanding each other's true meanings in the Chinese context and proceeding with their communication smoothly.

CHPATER 2

A BRIEF REVIEW OF COGNITIVE-LINGUISTIC STUDIES OF POLYSEMY

ON BODY-PART TERMS

2.0 Introduction

Since Chinese body-part terms *tou* 'head' and *yan* 'eye' are taken as the object of this study as well as are conducted in the field of cognitive linguistics, here, some previous cognitive-linguistic studies of body-part terms *head* and *eye* in the West and China are reviewed.

2.1 Body-part Terms as Polysemous Words Studied in the West

A body-part term as a polysemous word has many figurative meanings (Niemeier, 2000, p.203). Western scholars who are interested in human language have paid great attention to the metaphoric and metonymic usages of body-part terms (e.g., Yu, 2009; Siahaan, 2008; Hilpert, 2006a). As humans, our cognition is based on the bodily experience, and our everyday language identifies the existence of this bodily basis of human meaning. For instance, body-part terms have been widely accepted as effective instruments to represent or depict objective parts and locative relationships which are reflected in language (e.g., Matsumoto, 1999; Allan, 1995; Heine, 1995). Also, body-part terms are used to indicate logical and temporal relationships (e.g., Hollenbach, 1995) and activities encoded in linguistic expressions (e.g., Goossens, 1995; Pauwels & Simon-Vandenbergen, 1995). Lakoff and Johnson (e.g., 1980, 1999) emphasize the vital role played by the body in language and advance that such language reflexes and influences human thoughts through various ways.

Many Western scholars have concentrated on either a single body part or more than one body part (external and/or internal ones). Here, two typical case studies on body-part terms *head* and *eye* in the West are discussed and analyzed in detail.

Siahaan (2008) explored the figurative usages of two body-part terms *head* and *eye* in German and Indonesian, respectively. The data were collected from the electronic newspapers and analyzed quantitatively and qualitatively. The results showed that *head* and *eye* often perform the same conceptual metaphors and metonymies in these two languages. For instance, HEAD FOR LEADER, EYE AS AN INSTRUMENT FOR ACQUIRING KNOWLEDGE. Nevertheless, because of distinct cultures, the conceptualization and categorization of HEAD and EYE are different from one language to the other. Also, Siahaan discussed the corpus data in terms of frequency of occurrence, which demonstrates that the semantic extension is highlighted on the basis of the prominent attributes of these two body-part terms. In other words, most extended meanings of each body-part term are derived by emphasizing the apparent attributes of the literal meaning. For example, German speakers prefer the function of *Kopf* 'head' and *Auge* 'eye', while Indonesian speakers are inclined to refer to the position of *kepala* 'head' and the shape of *mata* 'eye'.

Siahaan's study does actually impress readers by providing precise data to compare and contrast figurative usages of HEAD and EYE in German and Indonesian. It demonstrates its success in utilizing both quantitative and qualitative research methods to control whole study, guiding the study from a full-scale point of view. At the same time, the data are much more authentic as they are common expressions in everyday language. The elaborate tables and figures about the results illustrated in this paper are

also comprehensive. However, the main problem of this study from my point of view is the incomplete analysis of conceptual metaphor and metonymy between HEAD and LEADER. Siahaan points out that the notion of 'leader' is reached on the basis of the notion of 'head' via the PART FOR WHOLE metonymy HEAD FOR PERSON. In my opinion, HEAD is conceptualized as LEADER owing to their similar 'position': the high status of a leader parallels the top or front position of the head. Therefore, another conceptual mapping 'metaphor' should be involved in this semantic extension.

Yu (2009) examined the figurative expressions of the body-part term *eye* in Chinese and English and delineated a cross-cultural study in cognitive linguistics. Based on the analysis of Chinese and English compounds and idioms containing body-part term 'eye', Yu found something common in the performance of conceptual metaphors and metonymies in these two languages. For example, in the metaphor SEEING IS TOUCHING, the source domain TOUCHING is the vocabulary of physical perception, while the target domain SEEING is the vocabulary of external self and visual sensation. This posits that 'seeing' conceptually parallels 'contact' between the eye and the target, that is, to see something is to touch it with the eye. However, this metaphor is based on the INSTRUMENT FOR ACTIVITY metonymy EYE FOR SEEING, since the eye is conceptualized as an instrument that maps onto its activity of 'seeing'. In the metonymy PERCEPTUAL ORGAN FOR PERCEPTION, since the eye is seen as a perceptual organ, this metonymy is generated from the PART FOR PART metonymy EYE FOR SIGHT and then from the SUB-CATEGORY FOR SUPER-CATEGORY metonymy SIGHT FOR PERCEPTION. Nevertheless, the main distinction between Chinese and English is encoded in their different linguistic expressions; that is, similar utterances refer to different meanings, or different

utterances refer to similar meanings. The particular data reveal such differences. The interpretations of 'eye' expressions in two languages embody the visual organ, respectively. This study confirmed that the relationships between body, mind and culture are diverse but ubiquitous in different contexts.

With the review of Yu's study, some limitations should be mentioned. First of all, Yu does not explain the source of data, either from dictionaries, corpus, his own knowledge or other aspects, so the reader cannot identify the reasonability and scientific rigor of the data. Then, the study targets the idioms in Chinese and English languages, on one hand, idioms, which are regarded as a specific family, are different from our everyday language in structural patterns; on the other hand, the meanings of idioms sometimes are hard to be defined and translated to another language without the background knowledge of their culture and history, which increases the difficulties of our understanding. In general, the results may not be generalized.

For instance, the Chinese idiom 有眼不识泰山 *you yan bu shi taishan* (have eye NEG know Mount Tai) literally refers to 'one has eyes but fails to see Mount Tai'. However, it is usually used to describe 'one with a narrow vision (or is shortsighted) in knowing someone who has high-status or talents in (doing) something' in daily language. In fact, in this idiom, *yan* does not mean 'eye' but is figuratively conceptualized as 'the perception (or perspective)'; also, *taishan* is not 'Mount Tai' but 'a person's name'. This idiom originates from an old Chinese story: Lu Ban, the originator of architecture in China, does not know his student Tai Shan's talents in architecture and drives Tai Shan out, which makes Lu Ban regretful when he finally hears about Tai Shan's incredible talents in this field. In English, the idiom *the apple of*

one's eye does not mean 'one's eye has (or sees) apple' but figuratively indicates 'someone or something that one cherishes above all others'. Here, the non-native speakers may be curious about the origination of this idiom and why 'apple' is applied to denote that precious person or thing. This expression turns up as early as in the works of King Alfred at the end of the ninth century. Also, it appears in both Shakespeare's *A Midsummer Night's Dream*: "Flower of this purple dye, / Hit with Cupid's archery, / Sink in apple of his eye" and the King James Bible *Deuteronomy*: "He kept him as the apple of his eye". At that time, the pupil of the eye or 'the eyeball' in modern English, was regarded as a solid object and was actually called 'the apple', probably because both of them are somewhat globular in shape. Thus, 'the apple of one's eye' literally meant 'the pupil'. Sight is very precious for people, and it is called 'endearment', which was similar to 'preciousness'. Besides, the apple and apple tree were taken as sacred symbols for the early British people, which can be found in the stories of *The Island of Avalon* (which literally indicates 'Apple Island'). The above are the reasons why English people use 'the apple of one's eye' to imply 'a precious or beloved person or thing'. Another representative English expression *green-eyed*, which refers to 'jealous or envious', also has its long history and representative culture. The color 'green' is related to 'jealousy' because the Greeks believed that jealousy was accompanied by the over production of bile, which makes the victim's complexion yellowish-green. So 'green' is associated with sickness and the color of some unripe foods causing illness. The poetess Sappho in the seventh century BC utilized the word 'green' to depict the face of a sick lover. After that, the word is universally applied to implicate 'jealousy or envy'. For example, Shakespeare used the expression "green-eyed jealousy" in his play

The Merchant of Venice, and later described a cat as "a green-eyed monster" because of its compared jealousy in his tragedy *Othello*.

Based on these instances, if one does not know the historical and cultural knowledge of the idioms, one may not be able to find the equivalent expressions in a foreign language to correspond to them and culture vacancies will appear in the translation. Furthermore, if the idioms are translated literally or mechanically into Chinese or English, both native and non-native readers would find it difficult to understand; such translated versions would be indecipherable, confusing and misleading.

Finally, although this study puts forward a lot of examples to analyze the metaphoric and metonymic extensions of body-part term 'eye', some are not systematically examined. For instance, the Chinese expression 打眼 *da yan* (beat eye) has two meanings; one is 'to drill a hole', the other is 'to catch one's eyes'. *Yan* 'eye' in them separately refers to 'a small and round hole of something' and 'the attention'. In his study, Yu interprets the metonymic extension EYE FOR ATTENTION but ignores the metaphoric extension EYE IS A SMALL AND ROUND HOLE OF A THING.

2.2 Body-part Terms as Polysemous Words Studied in China

Chinese scholars have investigated body-part terms on the basis of cognitive linguistics framework and attempted to explore the relationships between body-part terms, cognition and culture.

Li (2004) explains that the meanings of body-part terms are not only rooted in human experiences but are also influenced by particular culture; in other words, it is a cognitive mixture based on the bodily experience and cultural model. A person cannot

get a whole picture of the semantic system unless this person understands the meaning from a cognitive perspective. Huang (2010) states that the meanings of body-part terms, which are considered the cognitive ones based on human bodily experiences and take comparability and relativity as a joint, are realized by the two cognitive processes of metaphor and metonymy. This also moves forward to prove the views of cognitive linguistics which believe that the formation of polysemy is the result of human's cognitive thinking of metaphor and metonymy. According to Shan (2010), basic activities are based on the bodily experience. Basic category words are the fundamental grounding for us to cognize the world. We cognize the abstract concepts and objects through metaphor and metonymy. However, body-part terms belong to the basic category words and are able to undergo metaphor and metonymy. Zhang (2011) posits that metaphor is a basic method applied to cognize the world. In the process of social development, people depend on the potential similarities between body parts and the other objects, and boost these potential similarities from a cognitive perspective. Then, one conceptual domain maps onto another conceptual domain by means of metaphor. With the help of conceptual mappings formulated by shape, position and function, new meanings of body-part terms are effectively constructed.

Here, two typical case studies on body-part terms *head* and *eye* in China are cited in order to be analyzed in detail.

Li and Wen (2006) discussed the links among multiple meanings of body-part term 'head' in Chinese and English. The meanings of Chinese 头 *tou* 'head' and English *head* had been derived from two dictionaries: *Xinhua Dictionary with English Translation* and *Cambridge Advanced Learner's Dictionary*; also, examples containing

tou and *head* were collected from these two dictionaries. It was a qualitative study. According to the findings, polysemy is a cognitive phenomenon which is the result of categorization and conceptualization. There are two ways of thinking in the extension of word meanings: metaphor is based on similarity and metonymy is based on contiguity. However, metaphor plays a more important role than metonymy in the extension of word meanings. Finally, Li and Wen asserted that the relationship between various meanings of a polysemous word is not arbitrary but rather systematic and motivated.

In Li and Wen's study, the data sources are dictionaries. As we know, the illustrative words and phrases containing the target term 'head' in the dictionaries are somewhat out of context and are limited in reflecting their real usages in our daily language, so dictionaries are not enough to generalize the various meanings of 'head'. Then, the distinction between the original and extended meanings of 'head' is not well-documented; there is a lack of sufficient evidence to support that the original meaning is capable of deriving the other meanings as well as highest number of attributes among various meanings of 'head'. What's more, some patterns of meaning extension are not analyzed correctly. For instance, the extended meaning 'mind' in this study is seen as being derived from the literal meaning 'the head of the body' via the combination of metaphor and metonymy in both Chinese and English. However, the two concepts 'mind' and 'the head of the body' are associated with each other and belong to the same conceptual domain; the cognitive relationship between them is contiguity rather than similarity. Thus, the semantic extension from 'the head of the body' to 'mind' is metonymic.

Qin (2008) conducted a comparative study of conceptual metaphors of 'eye' in English and Chinese from a cognitive point of view. The data were collected from two sources: one was the dictionaries; the other was the online corpus. They were analyzed in a qualitative way. According to the results, English and Chinese share most of the conceptual metaphors and metonymies. Inevitably, there are differences existing in two different languages. Broadly speaking, there are four major experiential domains encoding in the metaphoric scope of 'eye': the domain of knowledge / intellection, the emotional and attitudinal domain, the domain of social relationship or relationship between entities, and the domain of shape or time. On one hand, the findings support the view of 'embodiment' in cognitive linguistics (i.e., our body influences the ways we think and speak); on the other hand, the findings further qualifies Sweetser's (1990, p.49) claims about the study of polysemy and semantic change: "the path of semantic change is one-way and lead from the external (socio-physical) domain to our internal (emotional, psychological) domain and that these two domains are linked by means of metaphor". For instance, in the path of semantic change of conceptual metaphor SEEING IS TOUCHING, the source domain TOUCHING is the vocabulary of physical perception, while the target domain SEEING is the vocabulary of external self and visual sensation. Obviously, when one sees an object, the brain not only remembers what the object looks like, but processes what it will feel like when one touches it. In other words, to see something is to touch it with eye, such as *He cannot take his eyes off of her*. However, this metaphor depends on the INSTRUMENT FOR ACTIVITY metonymy EYE FOR SEEING, since the eye is conceptualized as an instrument that maps onto its activity of 'seeing'. Furthermore, Qin posited that the path of semantic change can also proceed from the

external (social-physical) domain to another external (social-physical) domain. For example, the Chinese body-part term 眼 *yan* 'eye' can metaphorically imply 'a round hole of something' because of their similar shape, such as 针眼 *zhen yan* (needle eye) 'the aperture of a needle'. In the metaphor EYE IS A ROUND HOLE OF A THING, both the source and target domains are social-physical. Based on Sweetser's and Qin's views, it is obvious that the properties of domains in conceptual metaphor are diverse.

Qin's study systematically discusses the conceptual metaphors of 'eye' in English and Chinese. Besides, in the process of exploring meaning extension of 'eye', Qin observes that culture plays a significant role in it. In other words, English and Chinese each display distinct meaning extension of 'eye', also it identifies that language, mind and culture are closely related. In addition, the data are much more authentic and correspond to our everyday language and analyzed in detail by Qin. A problem of this study should be mentioned here, Qin classifies all conceptual mappings into the scope of metaphor; however, some of them belong to the metonymic mappings. For example, in Chinese and English, although 'eye' can be used to stand for 'a detective', it is difficult to find the similarities between these two concepts. As a matter of fact, 'the eye of the body' associates with 'a detective' in the way of contiguity, which is achieved via the PART FOR WHOLE metonymy EYE FOR PERSON. The same applies to the other extended meanings of 'eye', such as 'the emotion' and 'the perception', which are also achieved on the basis of the literal meaning by means of metonymy. They will be explained in more detail in Chapter 5 (see Section 5.2.3).

CHAPTER 3

THEORETICAL FRAMEWORK

3.0 Introduction

In this chapter, underlying definition of polysemy and basic concepts of cognitive linguistics, frameworks utilized to the study of polysemy are illustrated. They provide the theoretical background for this study.

3.1 Definition of Polysemy

Polysemy is derived from Greek *polysema* (*poly-* 'many' and *sema* 'sign, meaning'). It is Bréal (1897) who introduces the term *polysémie* into linguistics in his work *Essai de Sénzantique* (as cited in Blank, 2003, p.268). In China, polysemy is termed 多义词 *duo yi ci* (*duo* 'many', *yi* 'meaning' and *ci* 'word'). Polysemy is abundant and ubiquitous in everyday language and has drawn attention of linguists from different disciplines to posit a concrete and explicit definition for it. The following are two definitions of polysemy respectively defined by the Western and Chinese linguists:

(1) "polysemy is a lexical item which is commonly associated with two or more meanings that appear to be related in some way" (Evans & Green, 2006, p.36).

(2) "polysemy is a lexical item which involves several related senses including different parts of speech" (Zhao, 2000, p.36).

As shown in the above definitions of polysemy, a polysemous word has more than one meaning or sense, here, we should first explain two concepts: 'meaning' and 'sense'. Although both of them are related to a way in which a word, text, concept or action can be interpreted, they are somewhat discriminative. Lyons (1977, p.174) states

that "meaning has a number of distinguishable, but perhaps related, senses". In this sense, meaning is somewhat more general, while sense is rather conditionally restricted.

In order to understand the nature of 'sense', the notion of 'reference' is customary to be employed. According to Lyons (1977, p.199), "expressions may differ in sense, but have the same reference". For example, two expressions 'the Morning Star' and 'the Evening Star' share the same reference, 'the planet Venus', but not the same sense. The former is visible before sunset, and the latter is visible after sunset. People cognitively differentiate one sense from another on the basis of the truth-condition, namely the occurrence of sunset. If the meaning of something is an explanation of that thing, the sense of something is what is underneath the explanation. As we see, the sense of an expression is achieved through interpreting when that expression is true, and is also based on the interpreter's ability of cognition. Thus, 'sense' can be considered "cognitive or descriptive (truth-conditional) meaning" (Lyons, 1977, p.197).

In this study, the author will use 'meaning' and 'sense' interchangeably: 'meaning' is utilized as a general and abstract concept, and 'sense' is specified as describing the particular usages of polysemous words.

Based on the definitions of polysemy presented above, we can conclude that a polysemous word must meet the following conditions: the same lexemes have more than one meaning, while at the same time semantic connections exist between the meanings.

In terms of the second definition as posited by Chinese linguist Zhao, the notion of 'part of speech' should also be taken into consideration in the interpretation of polysemy. A part of speech (i.e. a word class) refers to a linguistic category of words,

such as *noun*, *verb* and *adjective*. In her view, a polysemous word is accompanied by the change of meanings as well as the change of parts of speech. Taking the polysemous word *head* as an example, *head* can be used in sentences *she always has her head in a book* and *Walsh headed the ball into an empty goal*. The meanings of *head* in these two sentences literally refer to 'the head of the body', but are dealt with from different angles. If the former focuses on the head in a static way, then the latter highlights it dynamically, considering it an instrument to orient the direction of a movement. It is obvious that the single linguistic form *head* in two sentences belongs to different parts of speech: the former is a noun while the latter is a verb. Also, Brugman (1988, p.19) notes that polysemy is "a shift of senses, and a functional shift".

It is obvious that the performance of polysemy is not only a matter of semantics, but also a matter of grammatical behavior. An understanding of polysemy should be based on the understanding of the relationship between word, meaning, and form. They are closely related to each other and could be regarded as the typical characteristics of the notion of 'polysemy'. Therefore, the present study is primarily based on the definition for polysemy by Zhao (2000, p.36): "polysemy is a lexical item which involves several related senses including different parts of speech".

3.2 Basic Concepts of Cognitive Linguistics

This section will describe basic knowledge of cognitive linguistics in three aspects: (1) definition of cognitive linguistics, (2) embodiment in cognitive linguistics, and (3) two areas of cognitive linguistics: cognitive semantics and cognitive grammar.

3.2.1   Definition of Cognitive Linguistics

The root of cognitive linguistics maybe traced back to the appearance of modern cognitive science in the 1960s and 1970s, especially work related to human categorization and earlier research fields such as Gestalt psychology.

Cognitive linguistics is a subfield of linguistics concerning the exploration of the relationship that exists between our language, mind and experience of the world. Geeraerts and Cuyckens (2007, p.5) elaborate the concept of cognitive linguistics, "cognitive linguistics is the study of language in its cognitive function, where *cognitive* refers to the crucial role of intermediate informational structures in our encounters with the world". To some extent, cognitive linguistics is closely related to the notion of 'cognitive psychology', which is defined as "involving the attempt to understanding human cognition by observing behavior of people performing various cognitive tasks" (Eysenck & Keane, 2010, p.1). Furthermore, Geeraerts and Cuyckens (2007, p.5) clarify the relationship between cognitive linguistics and cognitive psychology, "cognitive linguistics is cognitive in the same way that cognitive psychology is: by assuming that our interaction with the world is mediated through informational structures in the mind. It is more specific than cognitive psychology by focusing on natural language as a means for organizing, processing, and conveying that information. Language is seen as a repository of world knowledge and a structured collection of meaningful categories that help us deal with new experiences and store information about old ones". Ungerer and Schmid (1996, p.x) share a similar view with them and provide a brief definition of cognitive linguistics, "cognitive linguistics is an approach to language that is based on our experience of the world and the way we perceive and conceptualize it".

Based on statements by Geeraerts and Cuyckens (2007, p.5), cognitive linguistics has three essential characteristics. The first characteristic is "the primacy of semantics in linguistic analysis", which merely indicates that the fundamental element of language is meaning; the other two characteristics, namely "the encyclopedic nature of linguistic meaning" and "the perspectival nature of linguistic meaning", emphasize the nature of semantic phenomenon in question. In more detail, "the primacy of semantics in linguistic analysis" fits with a direct interpretation: if categorization is viewed as the primary function of language, then there is no doubt that meaning shows its primacy in the field of linguistics. "The encyclopedic nature of linguistic meaning", which depends on the categorical function of language, shows if language has the ability of categorizing the world, we do not have to master a systemic language meaning. "The perspectival nature of linguistic meaning" implicates that language cannot objectively reflect the world, while the categorical function of language itself structures the world instead of reflecting objective reality. Human language is obviously viewed as a means of managing knowledge which reveals the needs, interests, and experiences of humans and cultural issues. Cognitive linguistics highlights the organic embodiment of experiences that determine our cognition.

Crucially, "cognitive linguistics is a flexible framework rather than a single theory of language" (Geeraerts & Cuyckens, 2007, p.4). We take category structure (one of the research programs in cognitive linguistics) as a model to understand the notion of cognitive linguistics. When cognitive linguistics is considered as a category, it represents a family resemblance structure and subsumes a set of partially compatible approaches rather than a well-defined theory. Here, the principles of cognitive

linguistics involving categorization, prototype theory, metaphor, metonymy and metaphtonymy will be discussed later.

3.2.2 Embodiment in Cognitive Linguistics

Embodiment, regarded as the central idea of cognitive linguistics, addresses the relationship between human language, mind and experience. In cognitive linguistics, the term 'embodiment' denotes "understanding the role of an agent's own body in its everyday, situated cognition" (Gibbs, 2006, p.1), in other words, "how our bodies influence the ways we think and speak". This view suggests that conceptual organization within our mind is a function of the way our bodies interact with the environment we live.

Human language and thought are partly based on their subjective and felt experiences of their bodies in action. Cognition occurs when the body interacts with the social and physical world, and it should be studied in the light of the lively communications between humans and outside world. Besides, the patterns of embodied activities, motivating the continuous intelligent actions, provide the chance for the appearance of human language and thought. We cannot suppose that cognition is simply internal, symbolic, computational and disembodied; however, we should find out the more elaborated manners that the embodied action actually structures our language and thought. Obviously, the understanding of embodied nature of human cognition is based on the understanding of two connections: 'mind and body' and 'language and body'. However, embodied experience is not merely an issue of physiology or kinesiology; it needs to know how people move in the physical world. The mind is produced from ideas which are closely associated with the brain representations of the body and the

activities performed by the body in the real world.

Furthermore, when our body moves through the physical world, it is imbued with culture. Culture is defined as "an integrated system of learned behaviour patterns that are characteristics of the members of any given society. Culture refers to a total way of life of particular groups of people and includes everything that a group of people thinks, says, does and makes − its customs, language, material artefacts and shared systems of attitudes and feelings. Culture is learned and transmitted from generation to generation" (Kohls, 2001, p.25). In short, culture is the total way of life of any group of people. The cognitive model is similar to the cultural model, since each is supposed to provide the basics for diverse linguistic and nonlinguistic behaviors (Steen, 1994, p.132). In other words, the cultural model is not an attached phenomenon, but is assumed to help individuals as well as collective communities to do real work, which focuses on regulating people's beliefs, their expressions about the world and their own experiences. Culture, viewed as the products of prior human activity, can be situated externally to the individual; also, culture, which serves as part of knowledge and beliefs, can be situated internally. For some complex notions, such as 'happy', a cognitive model seems to be more restricted than the cultural model, because the latter might report a universal model of cognition scattered across members of a speech community. For instance, "the emphasis within cognitive linguistics on conceptual systems underlying the speech of idealized native speakers may better be viewed as capturing something about the supra-individual, or social/cultural, basis rather than anything about the psychology of individual speakers" (Steen, 1994, p.132).

It is commonly accepted that human thought, language and behaviour as intangibles each are the mirrors of culture, as well as being the constituents of culture. Particularly, human behaviour is performed by the body. The body system offers insight into the analysis of cultural systems. Gibbs (1999a, p.153) strongly emphasizes the interaction between mind, body, and culture: "scholars cannot, and should not assume, that mind, body, and culture can somehow be independently portioned out of human behavior as it is only appropriate to study particular 'interactions' between thought, language, and culture, respectively. Theories of human conceptual systems should be inherently cultural in that the cognition which occurs when the body meets the world is inextricably culture-based". People who are from the same community share some common conceptualization, which demonstrates that cognition is a property of cultural groups; that is, a natural cultural cognition is freely spread across the minds in a cultural group.

Embodiment may not offer a consistent foundation for all languages and thoughts; however, it is a fundamental constituent in the formation of our perception and cognition. In this sense, experiences encoded in the socio-physical world will be well formulated.

3.2.3 Two Areas of Cognitive Linguistics: Cognitive Semantics and Cognitive Grammar

Cognitive linguistics is broadly classified into two main areas: "cognitive semantics" and "cognitive (approach to) grammar" (Evans & Green，2006, p.48). The former mainly deals with lexical semantics while the latter concerns the structures of words, sentences and other grammar-oriented fields. From a cognitive point of view, a

cognitive model of meaning should be profiled before the development of a cognitive model of grammar. Therefore, cognitive grammar should be formulated by cognitive semantics and should also depend on it. On account of cognitive linguistics framework, grammar is regarded as a meaningful system which shares relatively significant properties with the linguistic meaning system and cannot be set apart from it.

Cognitive semantics takes a fundamental position in cognitive linguistics, and cognitive linguistics places central importance on the role of meaning. Unlike traditional modularization, which divides linguistics into phonology, morphology, syntax, pragmatics, and so on, cognitive semantics investigates knowledge representation and meaning construction so that the relationship between our experience of the world, conceptual organization and meaning structure inserted in language can be revealed. Theories of cognitive-linguistic approaches typically build on the argument that lexical meaning is conceptual: meanings of lexemes are references to concepts in the human mind based on our experience, which are related to entities in the world; thus, they are not an exact reflection of the external world but an experiential comprehension of the world.

As a new approach to the study of meaning, cognitive semantics recognizes that language is based on human perception and understanding of the world. Its formation is a dynamic mental process, which shows how humans conceptualize the world. Meaning is a matter of construal and conventionalization; that is, the process of linguistic construal is the process of psychology involved in perception and understanding of world knowledge. It holds that natural language, which is embedded in the overall human cognition, works on general cognitive principles. Language structure depends on

conceptualization which is adjusted by bodily experience of the external world. Linguistic units are on the strength of categorization, which generally leads up to prototype-based network and critically contains category extensions metaphor and metonymy. The interpretation of meanings of linguistic units depends on such experience encoded in socio-physical world as well as is featured by related knowledge constructions such as those conceptual, social or cultural models.

Cognitive grammar developed by Langacker (2000) is another important movement in the field of cognitive linguistics. According to cognitive grammar, meaning motivates the construction of grammar, which is decided by human cognitive modes in the course of experience in the world. The formation of grammatical rules is based on the mental activities, at the same time, it focuses on interpreting the relationship between language structure and meaning so as to find the experiential and conceptual explanations of grammar. For Langacker (2000, p.361), meaning is a dynamic conceptualization based on bodily experience, which is of great importance for understanding the basic principles of grammar.

The appearance of cognitive grammar is a turning point of grammar study, shifting from form-focused study to form-and-meaning-combined study. As a cognitive phenomenon, meaning is the product of both body and mind and of the interaction between humans and the world. Descriptions of meaning should take human cognitive modes into consideration. Grammar is set up around how people know and interpret the world. Cognitive linguists insist that general cognitive abilities can offer a unitary interpretation of meaning and grammar. Just as a word may have more than one meaning, grammatical element(s) might as well belong to a corresponding semantic

category, which depends on human choice in observation manner, salience degree and attentive point. If the meaning of a word is unrealistic, so is its grammatical component. Compared with traditional grammar, cognitive grammar is more flexible and reasonable for explaining change of parts of speech.

As we know, "the boundary between cognitive semantics and cognitive (approach to) grammar is not clear-cut" (Evans & Green，2006, p.49). However, meaning and grammar are viewed as two sides of the same coin. In other words, cognitive grammar is an approach for examining the units of language or the linguistic system while cognitive semantics is an approach to explore how the linguistic system deals with the conceptual system, which successively deals with the embodied experience. Thus, the fields of cognitive semantics and cognitive grammar are complementary.

3.3 Frameworks Used in the Study

Based on the above knowledge of cognitive linguistics, cognitive linguistics is a flexible framework rather than a single theory of language, and it subsumes a set of partially compatible theories. In this section, five theories in the framework of cognitive linguistics are introduced: categorization, prototype theory, metaphor, metonymy and metaphtonymy.

3.3.1 Categorization

Categorization is the central issue in cognitive linguistics, which is seen as one of the fundamental principles of cognitive and linguistic organization. Humans make comparisons, and humans spend their whole life comparing one thing with another and behave based on the categories they make.

Categorization is seen as an action by which humans put various items in order. Some items are constituents of a certain category, while the others are not. For example, rose, lily and chrysanthemum are the members of the category FLOWER. Objects in the world are grouped into categories, and categories are the products of categorization. This is an efficient and economic way to classify the world around us into categories so that we can store and access a great number of information with the help of minimal resources. In the framework of cognitive linguistics, categorization indicates a process of perceiving, differentiating and understanding ideas and objects. Simply speaking, categorization is a mental process of classification. A central rule in cognitive linguistics is that a number of cognitive categories are taken as conceptual structures on the basis of our perception and connection with the environment.

The cognitive view of categorization can be readily elicited from the classic experiments performed by some famous cognitive linguists, which provides sufficient proof that categorization is of importance in human cognition. Wittgenstein (1978, p.31) utilized the metaphor of a family resemblance to analyze the category GAME. The results showed that in this category, it was hard to find something common to all members, such as ball games, the Olympic Games, and so on. To be sure, there are attributes of being particularly related to the category. Some members possess some of these attributes while the other members have other attributes. In fact, no attributes are common to all members; in other words, some members have actually nothing in common with the others. Contrary to the intention of classical principle, category is not constructed by means of having common attributes, but by a set of overlapping similarities. Family resemblance is defined as a set of items such as AB, BC, CD, DE....

In other words, each item has some constituents in common with that of the other; however, few constituents can be shared among all items. Crucially, Wittgenstein had not realized the possibility that some instances of GAME might be better (prototypical) than the others in a category, or the others might be rather poorer (peripheral).

Subsequently, Labov (1973) and Rosch (1975) conducted a series of experiments to repair and improve Wittgenstein's experiments. Labov (1973) studied the linguistic categorization of household containers such as cups, mugs, bowls and vases. According to his findings, some subjects called the testing object a cup, the others named it a bowl. The classification was not clear between CUP and BOWL, instead, one category gradually integrated into another. Thus, Labov's tests may be regarded as the primary experimental evidence of the fuzzy boundaries between categories. Then, Rosch (1975) examined the nature of categories by asking subjects to determine what kind of entity could be considered as the goodness (or typicality) among category members. In detail, the researcher wanted to judge how good an example of the category BIRD was, such as bluebird, dove and ostrich. Based on the results, robin was predominantly answered by the subjects and was verified to be a good example of the category BIRD, the other kinds of birds were seen as the poor (or marginal) category members. Rosch's (1975) research shows that "people regard members of the same category differently: some are considered as being more typical than the others in a category" (p.223). This means that the membership between the entities of a category is graded into different levels. Specially, this study finds that "people categorize more representative members faster than less representative ones, and they do not perform a categorization on the basis of attributes, and they categorize on the basis of proximity to

a prototypical member of a category" (Rosch, 1975, p.224).

Based on the experiments carried out by the cognitive linguists mentioned above, the principles of cognitive category can be described as below (Ungerer & Schmid, 1996, p.19):

(1) categories are not random classifications of conditions of world; however, they actually depend on human cognitive abilities;

(2) cognitive categories of different kinds of things in the natural world are grounded in the conceptually prominent prototypes, which play a significant part in the operation of categories;

(3) the boundaries of cognitive categories are not clear-cut, that is, neighboring categories are not separated by rigid dividing lines, but are related by family resemblance;

(4) between prototypes and boundaries, examples of members of cognitive categories can be assigned a degree ranging from good to bad.

Here, many scholars have pointed out the significance of categorization in their studies. Sociolinguist Labov (1973, p.342) states that if linguistics is supposed to be a kind of study, there is no doubt that it is a study of categories, in other words, a study of how meaning is translated by language in terms of categorizing reality into disconnected units and a series of units. Jakendoff (1983, p.77) asserts the importance of categorization in human cognition, he considers that the ability of categorizing is a basic part of cognition, that is, the ability of determining whether a certain item is an example of a certain category…the ability of categorizing is necessary in employing prior experience in order to lead the explanation of new experience. In fact, memory is

useless without categorization. Lakoff (1987, p.5) creates a whole section to clarify the significance of categorization in his outstanding work *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. The main point is that categorization cannot be considered lightly and is far more basic than anything else for thought, percipience, speech and action. Whenever we see something, for instance, an animal, we regard it as a kind of thing and categorize it. Every time we presume about kinds of things − cups, nations, diseases, feelings and so on − we are using categories. Every time we attempt to carry out any *kind* of action, such as drinking with a cup, writing with a pen and closing the window, we are employing the notion of category. The specific action encoded in that context is viewed as a type of motor action (such as drinking, writing and closing); in other words, it belongs to a specific motor action category. Whenever we perform or understand the utterances, various categories are utilized: categories of speech sounds, of lexical items, of phrases, of sentences, and conceptual categories.

In general, categorization is a matter of cognition and human experience rather than a mind-independent work. We seldom function without the ability of categorizing, either in socio-physical world or in conceptual context. The realization of categorization is the core of any realization of the way to think as well as the way to function and thus the core of the realization of what turns us into human beings.

3.3.2 Prototype Theory

The concept *prototype*, in the study of 'Natural Categories' conducted by Rosch (1973), is first explained as a stimulus, and it occupies a prominent statue in the construction of a category, which is regarded as a result of the first stimulus that is

associated with that category. After that, *prototype* is redefined as the most central member of a category. Taylor (1995, p.59) suggests two ways to comprehend the term *prototype*, and his views have been widely accepted by most linguists. On one hand, it is employed as a core member or a set of core members of a category. In this sense, we generally treat a specific entity as a prototypical one in a category. On the other hand, it is interpreted as a schema representing the core of a category in human cognition. According to this method, a particular entity may not be taken as the prototype but may exemplify the prototype.

As noted, people prefer to mention the prototypical members when they are asked to instantiate examples of a category. For instance, if we are asked to exemplify a kind of FURNITURE, there is no doubt that *chair* is more frequently elicited than *stool. Chair* can then be taken as the prototype of the category FURNITURE and shows the prototypical effects. Prototypes, compared with other members of a category, are conceptually more prominent and salient. This salience arises from various sides of prototypes; for instance, they are the first ones to be learned and the most common ones to be frequently encountered. Besides, the prototypes can be explained as the easiest ones to be recalled and the quickest ones to be distributed to a category. The notion of salience is closely associated with the frequency of occurrence, offering a helpful guide to prototypicality.

However, we should be careful to utilize the term *frequency* to explain prototypicality. The impression that the occurrence of prototypical members are higher in frequency is likely to be a symptom of prototypicality. Therefore, degree of membership in a category, as put forward in Rosch's various works, is inclined to favor

a functional illustration of the formation of prototypes. Asymmetries exist in category members, in which some members are rather central or more representative than others. For instance, in the category FRUIT, category members such as oranges, bananas, grapes, kiwis, cherries and pears, are graded. In Rosch's (1975) experiment, informants were asked to list three kinds of fruit, the majority of answers tended to concentrate on oranges, apples and bananas. These three are taken as the "best examples" or "prototypes", because they each are frequently counted as well as they each display the prominent attributes in the category FRUIT. Generally speaking, fruit is defined as "the sweet and fleshy product of a tree or other plant that contains seed and can be eaten as food" (*Xinhua Dictionary*, 2011). Lemons are peripheral members probably owing to their atypical sour; also, strawberries and watermelons are more peripheral owing to their atypical sizes (too big or too small). A tomato is seen as a fruit because we take its genetic make-up into account, while the majority of people treat it as a vegetable since its use is restricted.

In cognitive science, prototype theory is generally regarded as an approach to categorization. Categorization is the process of grouping according to prototype(s). Based on the contributions made by the previous scholars, the prototype model of categorization maybe summarized as follows: a category is composed of various members; category members do not have the same attributes in common, but may be linked by family resemblances. Category members are classified into two parts: prototype(s) and peripheries. A prototype is defined as an item with the highest number of attributes in a category, while peripheries which do not contain all the attributes of the prototype are viewed as the members of the category but not the prototypical ones.

Category members do not have equal status: prototype(s) is (are) placed at the central position and surrounded by less central (or peripheral) members.

For example, Rosch (1975), in her work *Cognitive representation of semantic categories*, posits "Goodness-of-example and distribution of attributes in the category BIRD" (see Table 3.1). The category member *robin* is verified to be a good example (or prototype) of the category BIRD, the other kinds of birds are placed in the poor category members (or peripheries), since *robin* has the highest number of attributes compared with other kinds of birds.

Table 3.1: Goodness-of-example and Distribution of Attributes in the Category BIRD

Attributes	Category members				
	>ROBIN<	>SPARROW<	>DOVE<	>PARROT<	>OSTRICH<
lays eggs	+	+	+	+	+
beak	+	+	+	+	+
two wings & two legs	+	+	+	+	+/−
feathers	+	+	+	+	+
small & lightweight	+	+	+/−	+/−	−
can fly	+	+	+	+	−
chirps/sings	+	+	+	+/−	−
thin/short legs	+	+	+	+/−	−
short tail	+	+	+	+/−	−
red breast	+	−	−	−	−

3.3.3 Metaphor

The etymology of the English term *metaphor* represents the classical view that "metaphor depends on a transfer of meaning between two lexical items" (Van Gorp, Delabastita & Ghesquière, 1998, p.274). The word *metaphor* is a loan word derived

from the French *métaphore* and the Greek *metaphora*, which dates from the Greek item *metapherein* and equals to the meaning of 'transference'. In the word *metaphor*, the prefix *meta-* refers to 'change' and the suffix *-phor* indicates 'to bear' (Partridge, 1966, p.399-400).

Metaphor, for most people, is viewed as a matter of poetic imagination and rhetorical prosperity, and seems to be extraordinary language. Besides, metaphor is only regarded as a linguistic phenomenon that focuses on words rather than thought or action. Most people think they can live well without metaphor. Nevertheless, metaphor is really common in our everyday language, and it is not only a matter of language but also a kind of thought and action. Our conceptual structures (e.g., thinking and acting) are essentially metaphoric in nature (Lakoff & Johnson, 1980, p.3).

In *Metaphors We Live By* (1980), Lakoff and Johnson posit the conceptual metaphor theory, which highlights the universality of metaphor in people's daily experience and the function of human cognition in the interpretation of metaphor. One aspect in which conceptual metaphor theory is significant is that it is "one of the earliest theoretical frameworks identified as part of the cognitive semantics enterprise and provided much of the early theoretical impetus for the cognitive approach" (Evans & Green, 2006, p.286). The study of metaphor has been conducted under the framework of cognitive linguistics.

There are two domains of knowledge existing in conceptual metaphor, namely 'source domain' and 'target domain'. The nature of metaphor is understanding and experiencing one conceptual domain on the basis of another conceptual domain, while the exchange between these two domains is called 'mapping'. This relationship can be

realized and formulated in the pattern: CONCEPTUAL DOMAIN (A) IS CONCEPTUAL DOMAIN (B). The term *conceptual domain* denotes "any coherent organization of experience" (Kövecses, 2002, p.4). These two conceptual domains in a conceptual metaphor separately have a particular identification. The 'source domain' (domain B) is the domain that we base on in order to take metaphoric expressions to interpret another domain. The 'target domain' (domain A) is the domain which is interpreted in this way. In other words, when we want to use a metaphor, we generally attempt to understand the target domain in terms of the usages of the source domain. So far, the notion of 'to interpret' has been employed to describe the relationship between two domains (A and B) in the process of metaphorization. In order to understand the expression 'A is interpreted in terms of B', we should understand the concept of 'mapping'. It is obvious that a set of systematic agreements exist between source domain and target domain, in this sense, the conceptual constituents of B agree with the conceptual constituents of A. Technically, such conceptual correspondences are defined as mappings.

For instance, in the conceptual metaphor LIFE IS A JOURNEY, the domain of journey is taken as the source domain (domain B) while the domain of life is taken as the target domain (domain B). Based on the cognitive point of view on metaphor, we take metaphoric expressions from the domain of journey to interpret the domain of life. In other words, LIFE IS A JOURNEY licenses us to understand 'life' on the basis of the knowledge that we have consistently structured about 'journey'. Metaphor is a cognitive process realized through mapping of different conceptual domains; that is, metaphor maps a more concrete or physical structure of a source domain onto a more abstract or intangible structure of a target domain and is therefore termed a conceptual metaphor.

Lakoff and Johnson (1980) roughly divide conceptual metaphor into the following three types: structural metaphors, orientational metaphors and ontological metaphors.

A structural metaphor is built from one conceptual structure to another; that is, one concept is metaphorically structured in terms of another (e.g., LIFE is structured in terms of JOURNEY). Based on the structural metaphor, we can employ the words targeting one concept to discuss about another concept. For example, JOURNEY is viewed as a source domain usually mapped onto a target domain LIFE. Based on the more familiar concrete concept 'journey', we gain a better understanding of the abstract concept 'life'. It is no doubt that 'journey' is a complicated notion that contains happiness, sadness, adventure, surprise, and so on. The same applies to the notion of 'life'. Therefore, knowledge of 'journey' facilitates the understanding of 'life', because they share similarities.

An orientational metaphor projects abstract concepts in terms of human body and the space. Spatial orientation is the key point of an orientational metaphor. Such spatial orientations include in-out, up-down, central-marginal, front-back, on-off, near-far, etc. For example, consider the orientational metaphor "HIGH STATUS IS UP; LOW STATUS IS DOWN", as presented in the sentences *she has a high position* or *he falls in status*. Based on the social and physical concepts, status is related to power (social) and power is up (physical). The metaphoric orientations are not used arbitrarily. Indeed, they exist in terms of physical, cultural and intellectual experiences. Considering Wang's (2007, p.50) point of view, it is our bodies which experience the first thing – space, which involves place, orientation and movement. Therefore, human cognition originates

from and depends on the experience of their bodies and space, developing from far to near, from concrete to abstract and from the domain of body and space to other domains.

An ontological metaphor spurs us to understand abstract concepts in terms of concrete entities and substances. Our experience with concrete entities and substances offers a further foundation for our knowledge. For instance, the notion of 'combating or doing with inflation' refers to that inflation makes us uncomfortable or influences our standard of living. Based on the ontological metaphor, inflation is seen as an entity.

In short, metaphor is ubiquitous in our everyday life, and it is cognitively structured. The conceptual metaphor paves the way for us to comprehend one kind of experience on the basis of another, and its three types are useful for identifying the particular interactions between human language and cognition.

3.3.4 Metonymy

The English item *metonymy* etymologically stems from the Greek *metōnymía* and means 'a change of name'; it carries the meaning of *meta* 'change' and *onoma* 'name' (Welsh & James, 1983, p.222).

From a cognitive point of view, metonymy is defined as "a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same idealized cognitive model" (Kövecses, 2002, p.173). Compared with the categorization of metaphor (i.e., two different domains existing in metaphor), metonymy is viewed as a kind of conceptual mappings. Such mapping exists in a single domain; that is, one concept within a domain is used to stand for another within the same domain. This definition can be illustrated in detail from the following

three facets.

First, metonymy essentially is a conceptual phenomenon, more than just a matter of names of things. The study of metonymy has moved forward to the field of cognitive linguistics, in which metonymy is not just a linguistic strategy but a fundamental cognitive tool for people to conceptualize the outside world. As discussed, metaphor is a part of people's everyday thinking which is based on experience and is obedient to the comprehensive structures of our thoughts, attitudes and actions; the same applies to metonymy. For example, the expression *He is an ugly face* to some extent uncovers the nature of metonymy. From a person's face, generally we can read some essential characteristics about that person. The metonymic concept FACE FOR PERSON is therefore a typical way for us to think and interpret.

The notion of metonymy is also well elaborated based on the mechanism of categories. According to Lakoff (1987, p.79), "a member of a category can stand for the whole category and therefore illustrate prototype effects". Because most categories are seen as containing a prototypical structure, we can conclude that all categories may contain metonymic structure. Metonymic expressions in language reflect general metonymies in human mind and are facilitated by general cognitive principles. All metonymies are essentially conceptual in nature.

Second, metonymy is considered a cognitive process. The metonymic relationship generally involves the notion of substitution, which can be realized and formulated in the pattern: X (STANDS) FOR Y. In the example *He is an ugly face*, the name *face* is viewed as a substitution of the name *person*; thus, this utterance intends to show 'He is an ugly person'. However, this is not a complete explanation because *He is*

an ugly person does not indicate that he is ugly 'all about'. It only considers that he has an ugly face. Sometime, this may be odd in an utterance conveying a counter-expectation: *He is an ugly person rather than has an ugly face.* Thus, the two metonymies FACE FOR PERSON and PERSON FOR FACE are complementary: a person's face arouses that person and a person arouses the person's face. In this sense, metonymy does not just replace one concept with another concept; however, it relates them to construct a new and complicated meaning.

Based on Langacker's (1993, p.30) cognitive explanation of metonymy, "metonymy is a reference-point phenomenon in which one conceptual entity, the reference point, affords mental access to another conceptual entity, the desired target". Here, the referent will be treated as 'vehicle', while the goal-oriented entity will be treated as 'target'. According to the above example of *He is an ugly face*, the 'ugly face' plays a part in vehicle in order to access the 'person' that is seen as target; on the contrary, *He is an ugly person*, the 'person' plays a part in vehicle in order to access the person's 'ugly face' that is seen as target. At any rate, the vehicle and the target exist in the meantime. However, one seems to be more prominent than another and is therefore treated as the vehicle.

Third, the concept of 'contiguity' is the core of the definition of metonymy. From a cognitive point of view, contiguity relations are located at a conceptual level and contiguity is considered in the light of the whole range of conceptual relations associated with an expression. Furthermore, metonymic contiguity functions within the framework of an idealized cognitive model (ICM). Contiguity relations are dealt with in the light of encyclopedic knowledge represented within a domain. ICM is an organized

conceptual structure which can represent reality based on a certain perspective. ICMs are formed of various concepts and categories in accordance with the conceptual structures available to understand their experiences.

For instance, the meaning development of *hearse* contains some metonymic stages: the burning of the candle, the funeral, the procession, and so on, which are not only things, but also events. Many possible relationships are expected within an ICM. Thus, "metonymic processes are not restricted to reference; they occur at the purely conceptual level (categorization, linguistic reasoning), at different levels of language (lexis, morphology, syntax, discourse), in different linguistic functions (reference, predication, speech acts), and in a linkage interrelating different ontological realms (concepts, forms, and things/events)" (Panther & Radden, 1999, p.21). It is believed that people's knowledge is structured on the basis of ICMs. Metonymic connectors fit among components being part of an individual ICM. ICM plays a significant part in the understanding and development of metonymy.

Conceptually, a whole ICM is differentiated from its parts, so metonymy may grow systematically from the model of whole to part or the model of part to whole. To some extent, key to the formation of metonymy is classifying whole from part. Radden and Kövecses (1999, p.33) propose two basic kinds of conceptual relationships: "relation between a whole ICM and its part(s)" and "relation between parts of an ICM". Such relationships are divided into three primary types of metonymies: a whole ICM for a part of it, a part of an ICM for the whole of it, and a part of an ICM for another part of the same ICM. Several typical subtypes fall into these types of metonymies. Take the following examples: (1) My *car* has broken down; (2) You are my sweet *heart*; (3) He is

to *hammer* a peg into the wall; (4) He is reading *Shakespeare*; (5) This *bottle* is sweet. In example (1), *car* stands for its part the engine that broke down, which is a WHOLE FOR PART metonymy CAR FOR ENGINE. In the second sentence, it is obvious that the body part *heart* represents the person one loves, which is a PART FOR WHOLE metonymy HEART FOR PERSON. The other three exemplars are subsumed under the PART FOR PART metonymies. In the third metonymy, *hammer* is conceptualized as an instrument that maps onto the activity of 'hammering'; it is an INSTRUMENT FOR ACTIVITY metonymy. In example (4), *Shakespeare* refers to the writing or works of the writer Shakespeare; it is a PRODUCER FOR PRODUCT metonymy. In the fifth sentence, the content, such as milk or juice, instead of the container *bottle* is sweet; it is a CONTAINER FOR CONTENT metonymy.

In general, metonymy has a referring function in denoting things. People usually tend to interpret an uncommon and abstract entity on the basis of a familiar and concrete one, and both of them belong to the same domain. Based on Lakoff's ICM theory, the classification of metonymy is comparatively systematic, through which the comprehensive understanding of cognitive motivations of metonymy can be achieved.

3.3.5 Metaphtonymy

It is generally agreed that a metaphoric mapping connects a source domain to a target domain, which are two distinct domains, while a metonymic mapping arises in an individual domain that is configured by an ICM. In cognitive linguistics, metonymies depend on a relationship of 'contiguity'; that is, neighborhood or closeness. Such a relationship exists between what is indicated by the literal and figurative meanings of a word. However, the notion of 'similarity' or 'comparison' is generally embedded in

metaphor, which functions between the original (literal) meaning of a lexical item and its figurative parallel.

In spite of these differences, metaphor and metonymy are often combined with each other. Ungerer and Schimid (1996, p.129) state that the distinction between metaphoric and metonymic mappings is vague. This is because conceptual domains are elastic, and border lines between domains are not clear-cut. Nevertheless, during the process of meaning extension, people typically understand one meaning of an expression on the basis of another meaning within the same domain, then in the other domains, that is, metonymically first and metaphorically second. Taylor (2003, p.126) is a pioneer who proposes the notion of metonymy-based metaphors and states that metonymy is more basic than metaphor. Taylor gives examples of many cases in which a metonymic relation connects the concept of verticality to a metaphoric extension into a concept of quantity (or other aspects), such as MORE IS UP. A pile becomes higher with the increase of the quantity, thus one aspect represents another. However, Taylor questions the extent to which metaphor depends on metonymy. This issue is systematically argued by Goossens.

Goossens (1990) analyzes the way how metaphor and metonymy interact with each other, the phenomenon of which is called 'metaphtonymy'. There are two general types of this interaction: 'metaphor from metonymy' and 'metonymy within metaphor'. In the first type, a metaphor is rooted in a metonymic relation. For instance, the utterance *close-lipped* may indicate 'silent', which is a matter of metonymy: when someone closes his lips, he becomes silent, so *close-lipped* can metonymically describe 'silence'. Besides, *close-lipped* can also refer to 'speaking but giving little out', which is

a metaphoric translation, since we can perceive the absent information on the basis of silence. Goossens states that metonymy is the basis of metaphor because silence can be represented by being closed-lipped so that the metaphoric interpretation is possible. The type of 'metonymy within metaphor' is analyzed from another angle. Take the following example: *His wife caught his ear and asked him to buy a new pair of shoes.* This example works because of the metaphor ATTENTION IS A MOVING PHYSICAL ENTITY, in which ATTENTION is seen as a MOVING PHYSICAL ENTITY that is able to be 'caught' (the husband's ear). Nevertheless, this metaphor contains the metonymy EAR FOR ATTENTION, as ear is a body part that works as an instrument for the notion of 'attention' in this metaphor. These examples provide the evidence that metonymy is in the heart of metaphor.

3.4 Application of Cognitive-linguistic Theories to the Study of Polysemy

The development of cognitive linguistics has provided a profound theoretical framework to study the nature of polysemy. Polysemy, a common language phenomenon, derives from and mirrors the conceptual structure of human beings. Cognitive linguistics emphasizes the function of human cognition in the description of lexical meanings, and the various polysemous meanings are therefore produced through the interactions between human beings' cognitive activities and the surroundings that they live in.

Cognitive-linguistic theories have been particularly useful for providing several researchers with the convenient explanations of some phenomena in the studies of polysemy. For instance, inspired by the theory of categorization, the multiple meanings of a polysemous word have been grouped together by family resemblance and constitute

a single semantic category because they are related to each other, which are named as 'polysemous categories' (Taylor, 1995, p.99). Besides, through classifying the multiple meanings of a polysemous word, we can find the prototypical meaning(s) circled by the peripheral meanings, which can be well-documented through the prototype model of categorization (Rosch, 1978). Tyler and Evans (2001) also posit that "many distinct meanings of a polysemous word constitute a motivated semantic network around the prototypical meaning(s)". Furthermore, in order to explore how these peripheral meanings are associated to the prototypical meaning(s), the cognitive instruments of metaphor and metonymy are utilized to analyze the semantic extension. Just as Johnson (1987, p.12) states, "polysemy involves the extension of a core meaning of a term to other meanings by means of human cognition, such as metaphor and metonymy".

Metaphor is one of the major mechanisms of semantic extension in polysemization. According to the statistics, seventy percent of lexical meanings originate from conceptual metaphor in Chinese language (Zhao, 2000). Metaphoric extension of the polysemous category turns to be possible in the light of conceptual metaphor. That is to say, word meaning can be extended via linguistic metaphorization rooted in mapping the structure from one conceptual domain to another. Mappings between various conceptual domains create various contexts in which new meanings may appear and the phenomenon of polysemy occurs. Conceptual metaphor systematically illustrates the phenomenon of polysemy, and polysemy relatively identifies the existence of metaphor. In general, metaphor and polysemy are consistent and coefficient, which generate our languages and thinking.

Metonymy is also one of the most essential mechanisms of semantic extension. Metonymic extension is realized by perspectivization. Different usages of a polysemous word, whose semantic structures are extremely complex, tend to stress different components of frame-based knowledge. In order to know an object, an event or a concept with many attributes, we use the most salient attributes to interpret the whole or other aspects. That is why 'a pretty face' can stand for 'a beautiful lady'. Owning to its universality, metonymy, like metaphor, is also a significant cognitive device and makes a great contribution to polysemy. In metonymy, the relation between the multiple meanings of a polysemous word is that of contiguity or connectedness. Understanding of the metonymic motivation gives rise to polysemy which helps us understand the meanings through extension by metonymy.

After understanding the distinction and connection between metaphor and metonymy, we may safely generalize that both of these concepts are thought highly of in the study of lexical meaning, especially polysemous meanings. They are two main processes of meaning extension in polysemization. Zhao (2000, p.36) points out that "polysemy is a cognitive process in which the central or original meaning extends to other meanings with the help of human cognitive artifices such as metaphor and metonymy, and the result of human categorization and conceptualization". Sweetser (1990, p.8) says that "a great deal of polysemous words function on account of figurative usages". Lakoff (1987, p.13) proposes that "polysemy arises due to the systematic relationships existing between different cognitive domains and between elements of the same domain". Metaphor is a mapping operating across different cognitive domains, while metonymy involves a mapping operating across different

elements within the same cognitive domain. Polysemy has an intrinsic relation with metaphor and metonymy, and polysemous words are believed to be motivated by the cognitive mechanisms of semantic extension like metaphor and metonymy. Extending word meanings through metaphor and metonymy is a universal ability.

Furthermore, according to cognitive science, meaning and grammar are complementary and cannot be separated because the grammatical components of an utterance are valid if and only if the mind has the ability to make out their meanings. In this sense, the study of polysemy should not only consider the change of word meanings, but also the change of structural patterns. The former is the foundation of the latter while the latter is the representative of the former. The combination in analysis can give a comprehensive explanation of the formation of polysemy. Therefore, a cognitive system is believed to play a key role in polysemization. Polysemy is not viewed as a problem any longer; it is, in fact, an intrinsic characteristic of language, language usage and cognition.

CHAPTER 4

RESEARCH METHODOLOGY

4.0 Introduction

In this chapter, the qualitative research method utilized in this study is introduced. Then, the data will be clarified from three facets: (1) data collection, (2) data processing, and (3) data analysis.

4.1 Qualitative Research

In this study, underlying the context of cognitive linguistics, the research method serves the exploration of the internal relationships between the meanings of polysemous words as well as the examination of the structural patterns encoded in the polysemous meanings. Thus, such method is carried out from a qualitative way.

Punch (1998, p.4) defines qualitative research as "empirical research where the data are not in the form of numbers". The qualitative inquiry aims to explore and gain an in-depth understanding of a central phenomenon, such as a specific group or event, instead of a surface description of that phenomenon. It is developed through the generation of data about human community in social settings and the verification of patterns and categories existing in that data.

As for the study of language, the qualitative research method undoubtedly places language as the central subject and medium. This method not only explores the language itself, such as the interpreting of language form and meaning, but also the content out of language, such as the internal relationships between the meanings of an expression, the interaction between language form and meaning, and the influence of the context in the understanding of language meaning. Besides, the study of language

and particularly linguistic expressions offers qualitative insight into human cognition, namely, what and how humans think. Further, a cognitive approach to language is qualitative in nature. Based on the view of Kristiansen et al. (2006, p.28), on one hand, three features of cognitive linguistics provide the favorable environment for a qualitative research: "its very cognitive nature", "its usage-based perspective" and "its contextualized conception of language". On the other hand, there is another preponderant feature of cognitive linguistics functioning in the field of qualitative research: "the emphasis on the analysis of linguistic meaning over linguistic form might go hand in hand with the view that only introspection is a reliable method of direct access to semantic phenomena". Now, let us take a closer look at each of these features.

The first feature "a very cognitive nature" indicates that cognitive linguistics clusters around its cognitive nature and studies human mind in the interpretation of language. In this sense, the methodology of cognitive linguistics is predominantly introspective. Talmy (2005, p.2) broadly defines linguistic introspection as "the conscious attention volitionally directed by a language user to particular aspects of language as they manifest in his own cognition". Introspection is viewed as having a privileged access to our mind, and can determine patterns of mental states such as cognitive and bodily. Language meaning lies in our mind. In order to study meaning and collect the 'material' of meaning, we must resort to introspection. Thus, cognitive linguistics posits that language is integrated with our cognitive capacities and that its cognitive characteristics are prone to a qualitative approach to language. The second feature of cognitive linguistics, "a usage-based nature of cognitive linguistics", is actually a kind of linguistic analysis. Its central notion not only considers grammatical

structure but also regards such structure as resulting from and interacting with everyday language use. Obviously, the relationship between cognitive linguistics and the qualitative method is clearly established: usage-based linguistics can be obtained only from actual usage, such as arising from corpora with the natural language data or the experimental contexts evoking the particular expressions. The third feature of cognitive linguistics "a contextualized conception of language" integrates the contextual perspective with the approach to language. The related context not only takes human cognitive capacities into account, but also consists of the social and cultural factors. Thus, the deep understanding of language is an indispensable course in the field of cognitive linguistics. At present, cognitive linguistics has made great contribution to the developments within sociolinguistic research, and the socially and culturally oriented cognitive linguistics stands by the qualitative methodology, playing a leading part in sociolinguistic research in general.

Generally speaking, a qualitative approach makes the best of its advantages in the field of cognitive linguistics. Especially in this study, the analysis of polysemous meanings from a cognitive point of view is well guided and implemented by means of a qualitative method.

4.2 Data Collection

The body-part terms in the present study consist of two categories: *head* and *eye*. Here, these two body-part terms should be clarified and formulated in Chinese (i.e., Mandarin). The English word *head* has two basic Chinese counterparts: 头 *tou* 'head' and 首 *shou* 'head'. In this study, the character 头 *tou* 'head' was targeted, and 首 *shou* 'head' was left out of account because it is seldom used in modern Chinese. The

English word *eye* has two single-syllabic counterparts in Chinese: 眼 *yan* 'eye' and 目 *mu* 'eye'. *Mu* is more formal than *yan*. Besides, the disyllabic Chinese word 眼睛 *yanjing*, literally referring to 'eye and eyeball', is also applied to 'eye'. In this study, the above three linguistic forms of 'eye' were all taken into consideration.

In this study, the data, which involve words, phrases and sentences containing Chinese 头 *tou* 'head' and 眼 *yan* 'eye' (or 目 *mu* 'eye' or 眼睛 *yanjing* 'eye'), were extracted from two sources: the authoritative Chinese and Chinese-English dictionaries, such as *Modern Chinese Dictionary* (MCD) (2012), *Xinhua Dictionary* (XHD) (2011), and *A New Century Chinese-English Dictionary* (ANCCED) (2003); and the online corpus of the CCLPKU (Center for Chinese Linguistics Peking University) (2009). In detail, thirty-six examples were collected from dictionaries and seventy-three examples were extracted from the online corpus, among which sixty-three instances were related to *tou* 'head' and forty-six instances were related to *yan* 'eye'.

A dictionary is taken as a reference book which concentrates on giving definitions to words and phrases, containing multiple meanings. Generally speaking, dictionaries integrate all the words and their meanings in various contexts as well as categorize them in terms of their appropriate usages and parts of speech that they are associated with. Typically a lexical item will have several different meanings on the basis of the particular contexts it is interpreted. General dictionaries for learners are designed to meet the populace's demands for daily communication, and lexemes and meanings are unanimously accepted by particular speech communities. The scope and quality of selected vocabulary determines the trend of language evolvement. In this study, the authoritative dictionaries with a high publication were selected, and then the

data were collected from them. The above two Chinese dictionaries have their own distinct characteristics. *Xinhua Dictionary* pays attention to the interpretation of 字 *zi* (word) 'single-syllabic word (represented by one character)', and *Modern Chinese Dictionary* focuses on the interpretation of 词 *ci* (word) 'disyllabic word (represented by two characters)'. They are complementary to each other, since the two body-part terms 头 *tou* 'head' and 眼 *yan* 'eye' each are single-syllabic words (except 眼睛 *yanjing* 'eye'), and the compounds containing each body-part term are generally disyllabic words. Besides, the bilingual dictionary *A New Century Chinese-English Dictionary* was employed in order to verify the correctness in translating Chinese into English.

Using the dictionary is a fast, straightforward and efficient way of collecting data. On one hand, it directly displays the various meaning(s) of a word in its lexical entry; on the other hand, the instances containing the target word are common expressions in everyday language. Nevertheless, the limitations of using dictionaries to collect data are obvious: first, words in the dictionary tend to be presented formally, and lexical meanings are always presented out of context; second, if the dictionary is not fully comprehensive, some words and definitions are omitted; third, the dictionary is often limited in explaining the subtle differences between words of similar meaning.

In order to make the data more valid and reliable, the online corpus of the CCLPKU was used to elaborate upon the usages of body-part terms under investigation. It not only illustrates the particular meanings of a word with the help of context, but also complements the dictionaries with new meanings. CCLPKU is a data bank containing data collected mainly from books, essays, newspapers, and so on. A language corpus

aims to be available for language workers and offer them such evidence as the usages of language. Then this evidence can be employed to inform and identify particular theories about the lexical meanings. However, the usages of lexical meanings are determined only by experience rather than dictionaries indicating what a word should mean. Therefore, a number of dictionary publishers, language teachers and grammar editors alike have been turning to such corpus evidence in order to process and generate that experience. The use of a corpus has proven to be a useful descriptive tool and a necessary and efficient means to examine any concept of a language. Sinclair (1991, p.4) states that corpus makes it possible for people to find language facts that we never have chance to discover, and it is also prevailing in dictionary compilation. Though it is not a conventional principle, such a trend is unavoidable.

4.3 Data Processing

In this study, the examples in the data were classified on the basis of the original (or literal) and non-literal meanings of each body-part term. In other words, the words, phrases and sentences containing the literal meaning of each body-part term were organized into one group, while those containing the non-literal meanings of each body-part term were organized into another group.

Based on *Xinhua Dictionary* (2011), the original or literal meaning of 头 *tou* 'head' is "the upper part of the human body, or the front or upper part of the body of an animal, typically separated from the rest of the body by a neck, and containing hair, brain, face and so on", simply, 'the head of the body'. The original or literal meaning of 眼 *yan* 'eye' (or 目 *mu* 'eye', or 眼睛 *yanjing* 'eye') is "each of a pair of globular organs of sight in the head of humans and vertebrate animals", simply, 'the eye of the

body'.

In terms of the meanings of each body-part term, the author first consulted them in the dictionaries, and found the corresponding examples. The extra meanings of each body-part term that were not included in the dictionaries were then explored in the corpus, and the related examples were taken as the data. In the online corpus of the CCLPKU, the author chose five hundred instances containing *tou* 'head' and five hundred instances containing *yan* 'eye', *mu* 'eye' and *yanjing* 'eye' to examine their meanings in the contexts.

As for the data selection, first, duplicate examples were removed. Second, the examples that are not used in Mandarin Chinese were not considered and analyzed in this study, that is, the examples used in the other Chinese dialects instead of Mandarin Chinese were not involved. Third, the sentential examples must meet the requirements that they were complete sentences, in which the meanings of words or phrases containing each body-part term were sufficiently clear in the given contexts. Besides, the long sentences were shortened without causing changes to their meanings. Fourth, the non-literal meanings of each body-part term in the examples should be figurative, that is, they were metaphoric or metonymic.

Here, the Chinese compounds should be mentioned, since most of the data in this study are compound words. Although the collection of data involved words, phrases or even sentences, the compound words could still be extracted from them without causing changes to their meanings. Generally speaking, there are two elements, namely two characters, which constitute a Chinese compound word. In this study, one of two characters is a body-part term that is applied to the first or second position.

Some examples follow. If a body-part term is used as a preposition, it takes the first position preceding the following element, which can be a noun or verb working as the object of the prepositional phrase. This structure is recognized as 'an object of a preposition' in Chinese, namely Prepositional-Object (P-O). In this structure, the preposition is a phrase that starts a prepositional phrase, such as 'before'. Such a prepositional phrase is certainly used to talk about something, and the object of the preposition is the thing that the phrase is talking about. For instance, 头明 *tou ming* (head daybreak) 'before daybreak'; here, *tou* is a preposition and *ming* as a noun is the object of the prepositional phrase; 头吃饭 *tou chifan* (head eat) 'before eating'; here, *tou* is a preposition and *chifan* as a gerund is the object of the prepositional phrase. If a body-part term is located in the second position, it is usually performed as a noun and can come after a verb or adjective in Chinese, and the relationship that exists between them is separately Verbal-Object (V-O) or Adjectival-Noun (A-N). Nevertheless, the verb-noun structure sometimes is used as the relation Predicate-Subject (P-S). For instance, see 摇头 *yao tou* (shake head) 'to shake one's head'; here, *yao* is a verb and *tou* as a noun is the object of the verb. Also, *yao tou* can be applied to the relation Predicate-Subject in which *yao* is the predicate of the subject *tou*; another example is 好头 *hao tou* (good head) 'the good beginning (of something)'; here, *hao* is an adjective modifying the noun *tou.*

4.4 Data Analysis

Following data collection processing, the procedure of the analysis consists of four steps: first, the meanings of each Chinese body-part term were categorized into the original (literal) and the extended meanings; second, the prototypical meaning was

illuminated; third, the extended meanings were analyzed in terms of how they are respectively related to the literal meaning; fourth, the structural patterns of literal and extended meanings of each body-part term were examined. The last three steps are devoted to answering three research questions, respectively. They each are explained in detail as follows:

First, the original or literal meaning and the extended meaning should be identified. In terms of the original meaning, it overlaps the 'sanctioning meaning' (Evans, 2004, p.92). Evans (2004) states that "the sanctioning meaning is hypothesized to constitute the synchronic meaning which language users intuitively feel is the most representative meaning associated with a particular lexical item" (p.92). He also posits five criteria for identifying the sanctioning meaning: "(1) historically earliest attested meaning; (2) predominance in the semantic network; (3) predictability regarding other meanings; (4) a meaning which has a plausible cognitive antecedent; (5) a meaning which relates to lived human experience" (Evans, 2004, p.97). In the light of the first criterion, the sanctioning meaning is viewed as the first meaning playing a role in spurring the production of further meanings; so, the historically earliest attested meaning is encoded in primariness. For the second criterion, a meaning that plays a predominant role in a semantic network is treated as the sanctioning meaning. The notion of 'predictability' in the third criterion refers to the meaning from which the other meanings are naturally derived. In other words, the other meanings in the semantic network are to be predicted according to the sanctioning meaning. In terms of the fourth criterion, it indicates that the meaning well matches an antecedent cognitive processing, that is, the meaning precedes other meanings in time. In terms of the fifth criterion, the

sanctioning meaning must fit the lived experience of time. In general, the sanctioning or original meaning is more concrete and temporally earlier than the other meanings and may motivate meaning extension of a lexical item.

Besides, there is not a unified criterion defining literality or literal meaning. Roughly speaking, five points, cited from scholars such as Gibbs (1993, 1994), Lakoff (1986) and Récanati (1993, 1995), can retrieve the notion of literal meaning: conventionality, frequency, directness, objectivity and context-independency. First, conventionality indicates that the meaning conforms to the conventional thoughts and behaviors, and contrasts with poetic expressions, adornment and indirectness. Second, the literal meaning is frequently used and is a usual one. Third, the literal meaning can be understood directly without the help of the other information. Fourth, objectivity refers to the meaning that fits the outside world, indicates the concrete objects and is true or false. Fifth, the literal meaning is interpreted independently rather than triggered from the related context. To some extent, literal and original meanings have some features in common and are used interchangeably in this study.

The extended meaning is viewed as a distinct meaning. Evans (2004, p. 93) puts forward three criteria for examining distinct meaning: "(1) MEANING CRITERION: a lexical concept must contain additional meaning not apparent in any other meanings associated with the lexical item; (2) CONCEPT ELABORATION CRITERION: a lexical concept features unique or highly distinct patterns of concept elaboration, which concerns the selectional or collocational restrictions that apply to the lexical item; (3) GRAMMATICAL CRITERION: a lexical concept manifests unique or highly distinct structural dependencies, that is, it may occur in unique grammatical structures". Evans

assumes if a lexical item (or an expression) is considered distinctly, it must meet three meaning criteria or at least one criterion of them. This method then licenses a set of lexical concepts being related to a given word to be used as examples of differentiated elements that are independent of context in semantic network. Thus, the distinct or extended meaning derives from its original (literal) meaning by similarity or contiguity. They are conceptually related to each other and have some related attributes.

Second, after clarifying the original (literal) and extended meanings, the prototypical meaning that exists among the multiple meanings of each body-part term should be described. The distinction between the prototypical and peripheral meanings is a central issue in the study of polysemy, since it categorizes the multiple meanings of a polysemous word into distinct categories, interprets the way how those meanings are grouped together, and paves the way for category extension occurring to polysemous meanings. Specifically, the original (literal) meaning of each body-part term will be examined regarding how it can be taken as the prototypical meaning and what kinds of prototypical attributes it has. If the literal meaning succeeds in performing the role of prototype, the author will then explore how it influences the choices of the extended meanings and what kinds of attributes the extended meanings have.

Third, in terms of category extension between the polysemous meanings, or the links existing between the literal and extended meanings, two preliminary processes of meaning extension 'metaphor' and 'metonymy' will be utilized to examine how they spur the formation of the extended meanings of each body-part term on the basis of the literal meaning.

Fourth, from a cognitive point of view, language meaning and form generate and develop at the same time, and the latter is influenced by the former. In order to explore how the various meanings of a polysemous word interact with their various structural patterns, in this step, the author will examine the structural patterns of literal and extended meanings of each body-part term in order to unfold the internal relationships among the meanings of a polysemous word in broader terms. Hunston and Francis (2000) define pattern as "all words and structures are regularly associated with a word and contribute to its meaning". The structural pattern in this study particularly indicates that the parts of speech co-occur or keep habitual company in an expression, which is generally represented in a compound word (in this study, the compounds containing each body-part term were extracted from words, phrases and sentences without causing changes to their meanings). Obviously, the meanings of each body-part term are associated with different parts of speech, establishing the structural patterns in their compounds to differentiate between literal and extended meanings.

CHAPTER 5

DISCUSSION AND ANALYSIS

5.0 Introduction

In this chapter, based on the analyses of Chinese body-part terms such as *tou* 'head' and *yan* 'eye', in which the three research questions are separately answered, this study further discusses the construction of polysemy. The findings not only achieve the purpose of this study, but also are generalized in the field of the study of polysemy.

5.1 The Analysis of Chinese Body-part Term *tou* 'head'

In this section, the analysis of Chinese body-part term *tou* 'head' consists of four steps: first, the meanings of *tou* 'head' are categorized into original (literal) and extended meanings; second, the prototypical meaning is illuminated; third, the extended meanings are separately analyzed in terms of relation to the literal meaning, in other words, metaphor and metonymy are examined in terms of how they motivate meaning extension; fourth, the structural patterns of literal and extended meanings of *tou* 'head' are formulated. The last three steps are devoted to answering three research questions, respectively.

5.1.1 The Original (Literal) Meaning of *tou* 'head'

The original or literal meaning of 头 *tou* 'head' is "the upper part of the human body, or the front or upper part of the body of an animal, typically separated from the rest of the body by a neck, and containing hair, brain, face and so on" (*Xinhua Dictionary*, 2011), simply, 'the head of the body', as shown by the following expressions:

(1) a. 点　　头 (CCLPKU, 2009) (1a, Section 5.1.1)

dian　tou

nod　head

'to nod one's head'

b. 摇　　头 (MCD, 2012) (1b, Section 5.1.1)

yao　tou

shake head

'to shake one's head'

c. 抬　　头 (ANCCED, 2003) (1c, Section 5.1.1)

tai　tou

raise head

'to raise one's head'

d. 低　　头 (CCLPKU, 2009) (1d, Section 5.1.1)

di　tou

lower head

'to lower one's head'

e. 头　　顶 (CCLPKU, 2009) (1e, Section 5.1.1)

tou　ding

head　top

'the top of the head'

f. 头　　后 (CCLPKU, 2009) (1f, Section 5.1.1)

tou　hou

head　back

'the back of the head'

In (1), the head has its own particular activities and directions. In Chinese culture, one generally employs the motions of the head to express agreement or disagreement. When a person shows his or her agreement, this person 'nods his or her head' (1a), however, when this person 'shakes his or her head' (1b), it indicates the notion of disagreement. Sometimes, we 'raise our heads' (1c) or 'lower our heads' (1d) to give our eyes various angles of view. Obviously, our bodily experiences with our heads have generated the above meanings as we interact with the physical world. The head can be conceptualized as a concrete object, which looks like a three-dimensional container with six different planes (directions). 'The top of the head' (1e) and 'the back of the head' (1f) separately display the top and back planes of the head.

5.1.2   The Prototypical Meaning of *tou* 'head'

The data show that *tou* 'head' has one literal meaning (Sense 1) and twelve extended meanings (Sense 2-13) (Table 5.1).

Then the prototypical meaning of *tou* 'head' is illuminated. We generally cognize the head from three facets: shape, position and function. These are referred to as the apparent attributes of the head. First, a list of attributes collected from the literal meaning is compiled to differentiate prototypical meaning from peripheral ones. Table 5.1 illustrates the distribution of attributes for polysemous meanings of *tou* 'head', which is composed on the basis of Rosch's (1975) "Goodness-of-example and Distribution of Attributes in the Category BIRD" (see Table 3.1). In the table, a plus sign refers to an attribute that is present, a minus sign stands for a missing attribute, while a plus/minus combination indicates a greater or lesser deviation from the expected form

of the attribute.

Table 5.1: Distribution of Attributes for Polysemous Meanings of *tou* 'head'

Attributes Polysemous meanings	Shape		Position		Function
	small	globular (round)	top/ bottom	front/ back	physical / mental
(1) the head of the body e.g., 1a-1f, Section 5.1.1	+	+	+	+	+
(2) the top or the bottom of something e.g., 2a-2e, Section 5.1.3	-	-	+	-	-
(3) the beginning or the end of something e.g., 3a-3e, Section 5.1.3	-	-	+/-	+/-	-
(4) the stump of something e.g., 4a-4e, Section 5.1.3	-	-	+/-	+/-	-
(5) the side (or aspect) e.g., 5a-5d, Section 5.1.3	-	-	+/-	+/-	-
(6) first (in quality or importance) e.g., 6a-6f, Section 5.1.3	-	-	+/-	+/-	-
(7) first (in the position of a team) e.g., 7a-7d, Section 5.1.3	-	-	+/-	+/-	-
(8) first (in sequence) e.g., 8a-8f, Section 5.1.3	-	-	+/-	+/-	-
(9) previous e.g., 9a-9b, Section 5.1.3	-	-	+/-	+/-	-

Attributes / Polysemous meanings	Shape		Position		Function
	small	globular (round)	top/ bottom	front/ back	physical / mental
(10) before e.g., 10a-10e, Section 5.1.3	-	-	+/-	+/-	-
(11) a person's hair e.g., 11a-11f, Section 5.1.3	-	-	-	-	+
(12) the mind e.g., 12a-12d, Section 5.1.3	-	-	-	-	+
(13) a leader e.g., 13a-13e, Section 5.1.3	-	-	+/-	+/-	+

Sense (1) 'the head of the body' is the literal meaning of *tou* 'head', from which the particular attributes can be extracted to generate the common knowledge of the head. Generally speaking, the head can be understood from three facets: shape (i.e., small; globular (or round)), position (i.e., top or bottom; front or back), function (i.e., physical; mental). Here, the physical and mental functions of the head must be explained. In terms of the physical function, it refers to the physical activities of the head. For example, the activities of 'nodding', 'shaking', 'raising' and 'lowering' (as illustrated in Section 5.1.1). The head can be conceptualized as a container with brain, hair, eye, nose, mouth, ear, and so on. As for its mental function, this highlights the functions conducted by the brain; for instance, 'thinking' is the most central faculty of the brain.

Sense (2) 'the top or the bottom of something' contains attribute 'top or bottom'. Sense (3) 'the beginning or the end of something' is conceptualized as reflecting attribute 'top or bottom; front or back', since something at the top or front is regarded as

being placed at the beginning, while something at the bottom or back is viewed as being placed at the end. Sense (4) 'the stump of something' is conceptualized as involving the attribute 'top or bottom; front or back'. The stump here indicates one end of something or the small part that has left after the main part has been cut, broken off or worn away, which is generally applies to the top or bottom or front or back of something. Sense (5) 'the side (or aspect)' is conceptualized as displaying the attribute 'top or bottom; front or back'. The side or aspect of something is an area near the edge and away from the middle, either at the top or bottom or the front or back. Sense (6) 'first (in quality or importance)' is conceptualized as containing the attribute 'top or front'. Something at the top or front is deemed the 'first'. The same applies to Sense (7) 'first (in the position of a team)' and Sense (8) 'first (in sequence)'. Sense (9) 'previous' is conceptualized as reflecting the attribute 'top or front'. Something at the top or front is usually the thing previous to the others. The same applies to Sense (10) 'before'. Sense (11) 'a person's hair' and Sense (12) 'the mind', which are part of the head, take part in the physical and mental functions of the head. In terms of Sense (13), a leader is a person who leads a group of people or whose position is a head of everyone else in a group; some attributes can be extracted from this concept, such as the top, front, physical and mental functions of the head.

Compared with the attribute(s) of each extended meaning, the literal meaning of *tou* 'head' has the highest number of attributes, that is, the literal meaning covers all attributes of the extended meanings, while each extended meaning partly reflects the attributes of the literal meaning and is explained by the literal one. The literal meaning influences the choices of the extended meanings. Therefore, the literal meaning is

considered the prototypical meaning of *tou* 'head'. Besides, it is a characteristic of the related attributes that the literal and extended meanings are to be associated with a single lexical item *tou* 'head'.

5.1.3 The Metaphoric and Metonymic Extensions of *tou* 'head'

In this section, the extended meanings of *tou* 'head' are separately analyzed in terms of relation to the literal meaning, in other words, those conceptual aspects of HEAD are examined to see how they spur both metaphoric and metonymic extensions. Besides, some extended meanings of *tou* 'head', such as Sense 2, Sense 3, Sense 6, Sense 12 and Sense 13, have been discussed in the previous study (e.g., Li & Wen, 2006). This study, on one hand, makes up for their deficiencies with more examples and reasonable explanations; on the other hand, this study contributes the other extended meanings of *tou* 'head' to clarify its meaning extension.

(2) a. 山　头　(XHD, 2011) (2a, Section 5.1.3)

　　shan　tou

　　mountain head

　　'the top of a mountain'

b. 页　头　(MCD, 2012) (2b, Section 5.1.3)

　　ye　　tou

　　page head

　　'the top of a page'

c. 床　　头　(CCLPKU, 2009) (2c, Section 5.1.3)

　　chuang　tou

　　bed　　head

'the head of a bed'

d. 火柴　头　(CCLPKU, 2009) (2d, Section 5.1.3)

huochai tou

match　head

'the knobbed and red end of a match'

e. 锤　　头　(CCLPKU, 2009) (2e, Section 5.1.3)

chui　tou

hammer head

'the knobbed and metal end of a hammer'

In (2), *tou* 'head' refers to 'the top or the bottom of something'. The following expressions 'the top of a mountain' (i.e., the head of a mountain) (2a), 'the top of a page' (i.e., the head of a page) (2b), and 'the head of a bed' (2c) separately highlight the top or highest part of the mountain, the page and the bed. In Chinese, the lowest part of an inanimate object is described as 脚 *jiao* (foot), such as 山脚 *shan jiao* (mountain foot) 'the foot of a mountain', 页脚 *ye jiao* (page foot) 'the foot of a page', and 床脚 *chuang jiao* (bed foot) 'the foot of a bed'. The head, which corresponds to the foot, is applied to one end of human body, either the top or the bottom, as the upper part of an inanimate object parallels the head as conceptualized as the 'top' of the body. In (2d), 'the knobbed and red end of a match' indicates the top or bottom of the match, which matches the position of the head if the head is placed at the top or bottom of the body. The same is true for (2e) 'the knobbed and metal end of a hammer'. In particular, the red end of a match, which is used for lighting a fire, and the metal end of a hammer, which is used for breaking things or hitting nails, each signify the part that is knobbed

or globular; such part resembles the head in shape or in relation to a whole. Therefore, *tou* 'head' can be used to stand in for the top or the bottom of an inanimate object by means of metaphor, because they are similar either in position or shape, as the identification of how we understand the outside world on the basis of our heads.

(3) a. 话　头　(MCD, 2012) (3a, Section 5.1.3)

　　　hua　tou

　　　talk　head

　　　'the beginning of the talk'

b. 起　　头　(CCLPKU, 2009) (3b, Section 5.1.3)

　　qi　　tou

　　start　head

　'to start with the beginning (of something)'

c. 从　头　到　尾　(ANCCED, 2003) (3c, Section 5.1.3)

　　cong　tou　dao　wei

　　from　head　to　tail

　　'from the beginning to the end'

d. 开　个　好　头　(CCLPKU, 2009) (3d, Section 5.1.3)

　　kai　ge　hao　tou

　　make CL　good　head

　　'to make a good beginning (of something)'

e. 好　日　子　没有　到　头。(CCLPKU, 2009) (3e, Section 5.1.3)

　　hao　ri　zi　meiyo　dao　tou

　　good day SUFF　NEG　come head

'The good day does not come to the end.'

The head can be conceptualized as either the top (or front) or the bottom (or back) of the body. Obviously, something at the top or front is conceptually regarded as being at the beginning, while something at the bottom or back is conceptually viewed as being at the end. Thus, the head is 'the beginning or the end' of the body. Based on this notion, *tou* 'head' is conceptually employed to imply 'the beginning or the end of something' through metaphor, for example, *hua tou* (3a) is the beginning of the talk. In Chinese, *qi tou* (3b) is opposite to 收尾 *shou wei* (stop tail) 'to stop with the end (of something)'. The expression *cong tou dao wei* (3c) concisely formulates the relation between *tou* and *wei.* The Chinese character 尾 *wei* literally denotes 'the tail of an animal', which is at the bottom or back of the animal body. It is metaphorically used to indicate 'the end of something'. In (3d), *kai ge hao tou* in Chinese culture implies 'being lucky or auspicious'. An old Chinese saying 好的开始是成功的一半 *hao de kaishi shi chenggong de yiban* (good MOD beginning be success POSS half) 'a good beginning is half of success' emphasizes the importance of the beginning of an event. In (3e), since *tou* is modified by the motion verb *dao*, the meaning of *tou* here changes to 'the end (of something)'; for example, *dao tou* is 'to come to the end (of something)'.

(4) a. 粉笔 头 (ANCCED, 2003) (4a, Section 5.1.3)

fenbi tou

chalk head

'the stump of a chalk'

b. 铅笔 头 (XHD, 2011) (4b, Section 5.1.3)

qianbi tou

pencil head

'the stump of a pencil'

c. 烟　　　头　(CCLPKU, 2009) (4c, Section 5.1.3)

yan　　tou

cigarette head

'the stump of a cigarette'

d. 蜡　　　头　(CCLPKU, 2009) (4d, Section 5.1.3)

la　　tou

candle head

'the stump of a candle'

e. 布　　　头　(CCLPKU, 2009) (4e, Section 5.1.3)

bu　　tou

cloth head

'the stump of a piece of cloth'

The stump of something refers to the end of the thing or the small part that is left after the main part has been cut, broken off or worn away. For example, the stump of a chalk (4a) is a small part of the chalk that is left after the main part has been used up; the stump of a cigarette (4c) is a small part of the cigarette that is left after the main part has been burned up; the stump of a piece of cloth (4e) is a small part that is left after main part has been cut. In terms of the head, it is applies to one end of the body, either the top (or front) or the bottom (or back), as well as occupies a small part of the body, so the head can be conceptualized as the 'stump' of the body. In (4), *tou* 'head' is employed to specify 'the stump of something' through metaphor.

(5) a. 只　　顾　　一　　头　(CCLPKU, 2009) (5a, Section 5.1.3)

　　　zhi　　gu　　yi　　tou

　　　only care about　one　head

　　　'to care about only one side (of something)'

　b. 心　　挂　　　两　　头　(MCD, 2012) (5b, Section 5.1.3)

　　　xin　　gua　　liang　tou

　　　heart care about　two　head

　　　'to care about both aspects (of something)'

　c. 分　　头　寻找。　(CCLPKU, 2009) (5c, Section 5.1.3)

　　　fen　　tou　xunzhao

　　　different head　find

　　　'Find (something) from different directions.'

　d. 她　一　头　做，一　头　想。　(CCLPKU, 2009) (5d, Section 5.1.3)

　　　ta　yi　tou　zuo　yi　tou　xiang

　　　she one head　do　one head think

　　　'She does it on one hand and thinks about it on the other hand.'

The head is applied to one end of the body corresponding to the foot; in other words, it can be conceptualized as being placed at one side of the body, and the foot is at the other side. Therefore, in (5), *tou* 'head' is metaphorically used to stand for 'the side (or aspect) of something'. At the same time, the particular orientation is conceptualized on the basis of the role of head as part of our body; that is, the head embodies the orientation as well as displays the distinguishable directions. For instance, *tou* in (5a) is modified by the numeral *yi* 'one', so it indicates one direction. The expression *zhi gu yi*

tou refers to a person who pays close attention to something such that the target person's attention cannot be diverted. On one hand, this implies that this person is very attentive and concentrative; on the other hand, it denotes that the person is shortsighted and cannot take the whole into account because he or she only cares about one side. However, in (5b), one's attention is divided into two parts (i.e., two different directions), as *tou* is modified by the numeral *er* 'two'. Thus, the expression *xin gua liang tou*, on one hand, signifies one is absent-minded, or feels anxious and cannot calm down; on the other hand, it means that one considers the interests of the whole. In (5c), *tou* is modified by the adjective *fen* 'different', which displays multiple directions. The expression *fen tou xunzhao* accordingly indicates 'find (something) from different directions'. Besides, in English, *hand* is used to target orientation. For example, *She does it in one hand and thinks about it on the other hand*. However, in Chinese, *tou* 'head' is employed to highlight this notion, such as *Ta yi tou zuo, yi tou xiang* (5d).

(6) a. 头　等　　舱　(ANCCED, 2003) (6a, Section 5.1.3)

　　tou　deng　cang

　　head class　cabin

　　'the first-class cabin'

　b. 头　等　任务　(CCLPKU, 2009) (6b, Section 5.1.3)

　　tou　deng　renwu

　　head class　　task

　　'the task of prime importance'

　c. 头　版　新闻　(MCD, 2012) (6c, Section 5.1.3)

　　tou　ban　xinwen

head page   news

'the front-page news'

    d. 头　　号　　　面粉　(CCLPKU, 2009) (6d, Section 5.1.3)

    tou   hao   mianfen

    head number   flour

    'the first-grade flour'

    e. 头　　奖　(CCLPKU, 2009) (6e, Section 5.1.3)

    tou   jiang

    head prize

    'the first-class award (in a game or lottery)'

    f. 头　　功　(CCLPKU, 2009) (6f, Section 5.1.3)

    tou   gong

    head merit

    'the first-class merits and achievements'

The head is applied to the top or front of the body. Often, an object at the top or front is deemed the first object. Thus, the head is considered the 'first' part of the body. Besides, owning to the brain, the head is viewed as the center of the body and plays an important role in controlling the actions of the other body parts. Obviously, the head is conceptualized as 'the best or most important' body part. In (6), *tou* 'head' is metaphorically used to highlight something as 'first in quality or importance'. For example, *tou deng cang* (6a) is the first cabin in a plane, the quality of which is the best; *tou deng renwu* (6b) is the first and most important task; *tou ban xinwen* (6c) is the first and most important news, which attracts the readers' eyes immediately as they begin to

read the newspaper; *tou hao mianfen* (6d) indicates that the flour is of top grade. In the above expressions, the characters *deng*, *ban* and *hao* are Chinese classifiers, describing and modify the properties of objects following them. Sometimes, such classifiers can be omitted without causing changes to their meanings. For instance, see *tou jiang* (6e) parallels *tou deng jiang*, which indicates the most valuable prize (in a game or lottery); *tou gong* (6f) parallels *tou deng gong*, which emphasizes someone's prominent contributions in what he or she has done.

(7) a. 头　车　(XHD, 2011) (7a, Section 5.1.3)

tou　che

head car

'the lead car'

b. 头　马　(CCLPKU, 2009) (7b, Section 5.1.3)

tou　ma

head horse

'the lead horse'

c. 头　雁　(CCLPKU, 2009) (7c, Section 5.1.3)

tou　yan

head wild goose

'the lead wild goose'

d. 头　羊　(CCLPKU, 2009) (7d, Section 5.1.3)

tou　yang

head goat

'the lead goat'

As known that an object at the top or front of an array is deemed the first object, similarly, since the head is applied to the top or front of the body, it is no wonder that the head is often taken as the 'first' part of the body. Thus, *tou* 'head' is conceptually employed to imply 'first in the position of a team' through metaphor. For instance, *tou che* (7a) is the first car in a fleet of cars; *tou ma* (7b) is the first horse in a group of horses; *tou yan* (7c) is the first wild goose in a group of wild geese. In terms of *tou yang* (7d), it conveys two meanings, on one hand, it refers to the first goat in a flock of goats; on the other hand, this also may imply 'a leader'. In Chinese culture, *tou yang* is the fittest to survive through competitions with other goats, and it therefore has natural highest prestige; also, the other goats are to be persistently willing to follow it. The notion of 'leader' is achieved by means of metaphor.

(8) a. 头　婚　(MCD, 2012) (8a, Section 5.1.3)

　　tou　hun

　　head marriage

　　'the first marriage'

b. 头　生　(CCLPKU, 2009) (8b, Section 5.1.3)

　　tou　sheng

　　head birth

　　'the first birth'

c. 头　五　页　(CCLPKU, 2009) (8c, Section 5.1.3)

　　tou　wu　ye

　　head　five page

　　'the first five pages'

d. 头 三 天 (CCLPKU, 2009) (8d, Section 5.1.3)

tou   san tian

head three day

'the first three days'

e. 头 班 车 (CCLPKU, 2009) (8e, Section 5.1.3)

tou   ban   che

head   CL   car

'the first car'

f. 头 场 比赛 (CCLPKU, 2009) (8f, Section 5.1.3)

tou   chang bisai

head   CL   game

'the first game'

In addition to the meanings 'first in quality or importance' and 'first in the position of a team', *tou* 'head' is also metaphorically used to specify 'first in sequence'. For instance, *tou hun* (8a) is the first marriage for male or female, who, supposedly, would have the second or third marriage. In the same way, *tou sheng* (8b) is the first birth for a woman, who, supposedly, would have the second or third birth. Generally speaking, underlying this meaning, *tou* 'head' is usually followed with a numeral or classifier in Chinese. For example, in *tou wu ye* (8c) and *tou san tian* (8d), *wu* and *san* are numerals; in *tou ban che* (8e) and *tou chang bisai* (8f), *ban* and *chang* are classifiers.

(9) a. 头 年 (CCLPKU, 2009) (9a, Section 5.1.3)

tou   nian

head year

'the previous (or last) year; the year before'

b. 头　　天　(MCD, 2012) (9b, Section 5.1.3)

tou　　*tian*

head　day

'the previous (or last) day; yesterday'

The head is taken as the 'first' part of the body followed with other body parts, in other words, the head can be conceptualized as a 'previous' body part that precedes others in order. Therefore, *tou* 'head' implies 'previous' and is usually employed to describe the particular time that happens or exists before the current time by means of metaphor. Based on this notion, *tou* 'head' is used before *nian* 'year', *yue* 'month' and *tian* 'day'. For instance, *tou nian* (9a) is the year before this year; *tou tian* (9b) is the day before today.

(10) a. 头　　　明　(ANCCED, 2003) (10a, Section 5.1.3)

tou　　*ming*

head　daybreak

'before daybreak'

b. 头　七　　点　(CCLPKU, 2009) (10b, Section 5.1.3)

tou　*qi*　*dian*

head seven o'clock

'before seven o'clock'

c. 头　　起床　(CCLPKU, 2009) (10c, Section 5.1.3)

tou　*qichuang*

head   get up

'before getting up'

d. 头   吃饭 (CCLPKU, 2009) (10d, Section 5.1.3)

tou   chifan

head   eat

'before eating'

e. 头   进   考   场 (CCLPKU, 2009) (10e, Section 5.1.3)

tou   jin   kao   chang

head enter examination   hall

'before entering the examination hall'

In (9), *tou* 'head' refers to 'previous'. Analogously, it can also be metaphorically endowed with the meaning of 'before'. In (10), *tou* 'head' is used to underline the particular occasion that happens before (or earlier than) the current time or action. For example, *tou ming* (10a) and *tou qi dian* (10b) separately refer to the certain time before daybreak and seven o'clock; in (10c), (10d) and (10e), the featured occasions are restricted before conducting some actions, such as *qichuang*, *chifan* and *jin*, each of these actions separately maps onto the activities of 'getting up', 'eating' and 'entering'.

(11) a. 梳   头 (XHD, 2011) (11a, Section 5.1.3)

shu   tou

comb head

'to comb one's hair'

b. 剃   头 (CCLPKU, 2009) (11b, Section 5.1.3)

ti   tou

shave head

'to shave one's hair

c. 洗　　头　(CCLPKU, 2009) (11c, Section 5.1.3)

xi　　tou

wash head

'to wash one's hair'

d. 平　　头　(MCD, 2012) (11d, Section 5.1.3)

ping　tou

flat　　head

'the crewcut'

e. 学生　　　头　(CCLPKU, 2009) (11e, Section 5.1.3)

xuesheng tou

student　head

'the student hair-style'

f. 潮　　　　　头　(CCLPKU, 2009) (11f, Section 5.1.3)

chao　　　tou

fashionable head

'the fashionable hair-style'

In (11), *tou* 'head', on one hand, is used to stand for 'a person's hair' (11a), (11b) and (11c); on the other hand, it refers to 'a person's hair-style' (11d), (11e) and (11f). The truth is that the head cannot be combed, shaved or washed while the hair can, and there are various kinds of hair-styles rather than the head being suitable for different crowds. For example, *ping tou* (11d) is a man's hairstyle, in which the hair is very short;

xuesheng tou (11e) is commonly a favorite among students; *chao tou* (11f) means that someone's hair-style is fashionable. As known that the hair is a part of the head, *tou* 'head', in Chinese culture, indicates 'hair' via the WHOLE FOR PART metonymy HEAD FOR HAIR.

(12) a. 头　　脑　(MCD, 2012) (12a, Section 5.1.3)

　　　　tou　nao

　　　　head brain

　　　　'the mind'

In (12), *tou nao*, literally refers to 'head and brain', implying the notion of 'mind'. The head is considered a place where thoughts and memories are stored and where the activity of 'thinking' happens. Thus, the head is conceptualized as a container with the mind inside. The notion of 'mind' is established via the CONTAINER FOR CONTENT metonymy HEAD FOR MIND.

　　b. 请　　保持　　冷静　　的　　头脑。 (CCLPKU, 2009) (12b, Section 5.1.3)

　　　　qing　baochi　lengjing　de　tou nao

　　　　please　keep　cool　　MOD　head brain

　　　　'Please keep sober-minded.'

　　c. 不要　头脑　　发　　热。 (CCLPKU, 2009) (12c, Section 5.1.3)

　　　　buyao　tou nao　fa　　re

　　　　NEG　　head brain　become hot

　　　　'Do not act recklessly.'

d. 清除　　头脑　　　中　　的　　错误　　思想。 (CCLPKU, 2009) (12d, Section 5.1.3)

qingchu　*tou nao*　*zhong*　*de*　*cuowu*　*sixiang*

clear away head brain　in　POSS　wrong　ideas

'Clear away the minds of wrong ideas.'

In (12b) and (12c), *tou nao* 'the mind' is conceptualized as having temperature, such as 'cool' and 'hot'. Deignan (1999) argues that 'cold' is properly remarked to imply the notion of intellectual control and an absence of feelings, while 'hot' refers to strong, possibly uncontrolled feelings and lack of rationality. Our bodily experience fundamentally influences the ways that we think and speak: *lengjing de tou nao* and *tou nao fa re* are encouraged by human experience in terms of varying body temperature. Thus, the former maybe viewed as the result of the perception that the head feels cool when its owner is calmly thinking, whereas the latter depends on the perception that the head feels hot when its owner is strongly emotional or out of control.

The expression in (12d) can be explained in another way. It is regarded as a metaphoric extension of the CONTAINER image schema, which demonstrates the IN-OUT orientation of people's bodily experience. Johnson (1987, p.18) posits that "our encounter with containment and its boundedness is one of the most pervasive features of bodily experience". We utilize three-dimensional containers to describe bodies, into which food, water and air move, while out of which food and water waste and air and blood emerge. According to this PATH schema, which is displayed as an IN-OUT orientation, an issue such as *cuowu sixiang* is counted as a wrong idea resisting removal from its CONTAINER (head*)*.

(13) a. 头　领　(XHD, 2011) (13a, Section 5.1.3)

tou ling

head lead

'the leader (of a group or an organization)'

b. 工　头　(CCLPKU, 2009) (13b, Section 5.1.3)

gong tou

work head

'the foreman'

c. 头　目　(MCD, 2012) (13c, Section 5.1.3)

tou　mu

head eye

'the leader (of a negatively assessed social group)'

d. 强盗　　　头　(CCLPKU, 2009) (13d, Section 5.1.3)

qiangdao　tou

bandit　head

'the leader of a gang of bandits'

e. 他　是　公司　的　头。　(CCLPKU, 2009) (13e, Section 5.1.3)

ta　shi　gongsi　de　tou

he　be company MOD head

'He is the head of the company.'

The conceptualization of the top or ruling position in a hierarchically organized structure via the head is abundant in Chinese. As exemplified in (13), *tou* 'head' is used to denote 'a leader', who holds a position of leadership in a group or an organization.

On one hand, the head is a part of human body, and *tou* 'head' is used to stand for a person via the PART FOR WHOLE metonymy HEAD FOR PERSON. On the other hand, considering HIGH STATUS IS TOP OR FRONT, the high status of a leader is conceptually similar to the top or front position of the head. Thus, *tou* 'head' is able to indicate the notion of 'leader' by means of another conceptual mapping metaphor.

In (13a), *tou ling* refers to a person holding the top position in an institutional hierarchy, that is, the leader of that institution, and everyone else is subordinate to that person. Particularly, *gong tou* (13b) is a person who is in charge of a group of factory workers. Moreover, *tou* 'head' is employed to stand for a leader of a negatively assessed social group, namely more marginalized, less acceptable and sometimes negatively evaluated groups (e.g., terrorists, gangs). This notion of *tou* 'head' is encoded within the expression *toumu* (13c). Particularly, *qiangdao tou* (13d) indicates a leader who leads a group of robbers. In modern Chinese, the single linguistic form *tou* is also able to convey the meaning of 'leader'. For example, *tou* in the sentence *Ta shi gongsi de tou* (13e) signifies a leader who is in charge of other people at work and tells them what to do in a company.

5.1.4   The Structural Patterns of Literal and Extended Meanings of *tou* 'head'

In the compounds containing *tou* 'head', the lexical items immediately left and right to the target term *tou* 'head' are categorized on the basis of their parts of speech (Table 5.2). Sample compounds are attached to the structural patterns.

Table 5.2: Structural Patterns of Literal and Extended Meanings of *tou* 'head'

Parts of speech	Literal meaning		Extended meanings			
tou N	tou–N 头顶 *tou ding* head top 'the top of the head'	V–tou 摇头 *yao tou* shake head 'to shake one's head'	N–tou 山头 *shan tou* mountain head 'the top of a mountain'	ADJ–tou 好头 *hao tou* good head 'the good beginning (of something)'	PREP–tou 从头 *cong tou* from head 'from the beginning (of something)'	NUM–tou 一头 *yi tou* one head 'one side (of something)'
tou N	头脑 *tou nao* head brain 'the mind'	梳头 *shu tou* comb head 'to comb one's hair'				
tou ADJ	tou–N 头马 *tou ma* head horse 'the lead horse'	tou–(NUM)–N 头三天 *tou san tian* head three day 'the first three days'	tou –(CL)–N 头班车 *tou ban che* head CL car 'the first car'			

Parts of speech	Extended meanings					
tou PREP	tou–N 头 明 *tou ming* head daybreak 'before daybreak'	tou–V 头吃饭 *tou chifan* head eat 'before eating'				

The meanings of *tou* 'head' are associated with three different parts of speech: *tou* N, *tou* ADJ and *tou* PREP. In detail, *tou* N is represented in Sense (1-5, 11-12), *tou* ADJ is represented in Sense (6-9), and *tou* PREP is represented in Sense (10).

The literal *tou* is used as a noun, while the extended *tou* can be used as a noun, adjective or preposition. Since *tou* as a noun can indicate both literal and some extended meanings in its compounds, these compounds share the same structural patterns (i.e., tou–N and V–tou). The literal usages of *tou* generally take nouns as right-side associates and verbs as left-side associates. The extended usages of *tou* are differentiated on the basis of its various parts of speech. If *tou* is treated as a noun, nouns encourage its extended interpretation at both the right and left sides, and verbs, adjectives, prepositions and numerals are found to the left of it. If *tou* is used as an adjective, nouns are modified by it at the right side. Particularly, in Chinese, numerals and classifiers are more often found between adjectives and nouns. If *tou* acts as a preposition, it is generally placed before nouns and verbs.

5.1.5 Summary

According to the analyses of Chinese body-part term *tou* 'head', three research questions (see Section 1.3) are separately answered.

In terms of the first research question, the original or literal meaning of *tou* 'head' is 'the head of the body'. Compared with the attributes of each extended meaning, the literal meaning predominantly has the highest number of attributes, and it is therefore regarded as the prototype among the thirteen meanings of this body-part term.

Obviously, according to the distribution of attributes of polysemous meanings of *tou* 'head' (see Table 5.1), Chinese speakers prefer the position and function of the head, because most of the extended meanings are derived by emphasizing these two apparent attributes. The head, on one hand, is prominent in its position, namely the top or bottom (or front or back) of the body; on the other hand, in terms of the physical and mental functions of the head, the head is conceptualized as an individual that has ability of performing activities and is independent of its possessor's volition, for instance, the head maps onto its activity of 'thinking' (because of the brain). As the position and function are taken as the predominant attributes of the head, they are supposed to have privileged access to the interpretation of relation between the literal and other extended meanings of *tou* 'head', excepting what the author has exemplified in this study.

As for the second research question, metaphor and metonymy are examined as two major processes of meaning extension that exist between the literal and extended meanings of *tou* 'head'. Category extension of *tou* 'head' is much clearer in Figure5.1 (M = Metaphor, ME = Metonymy). As we see, metaphor is the major conceptual mapping for motivating meaning extension of *tou* 'head'. Since nine extended meanings

are achieved on the basis of the literal meaning through metaphor, two extended

meanings are achieved through metonymy, and one extended meaning is achieved

through the combination of metaphor and metonymy.
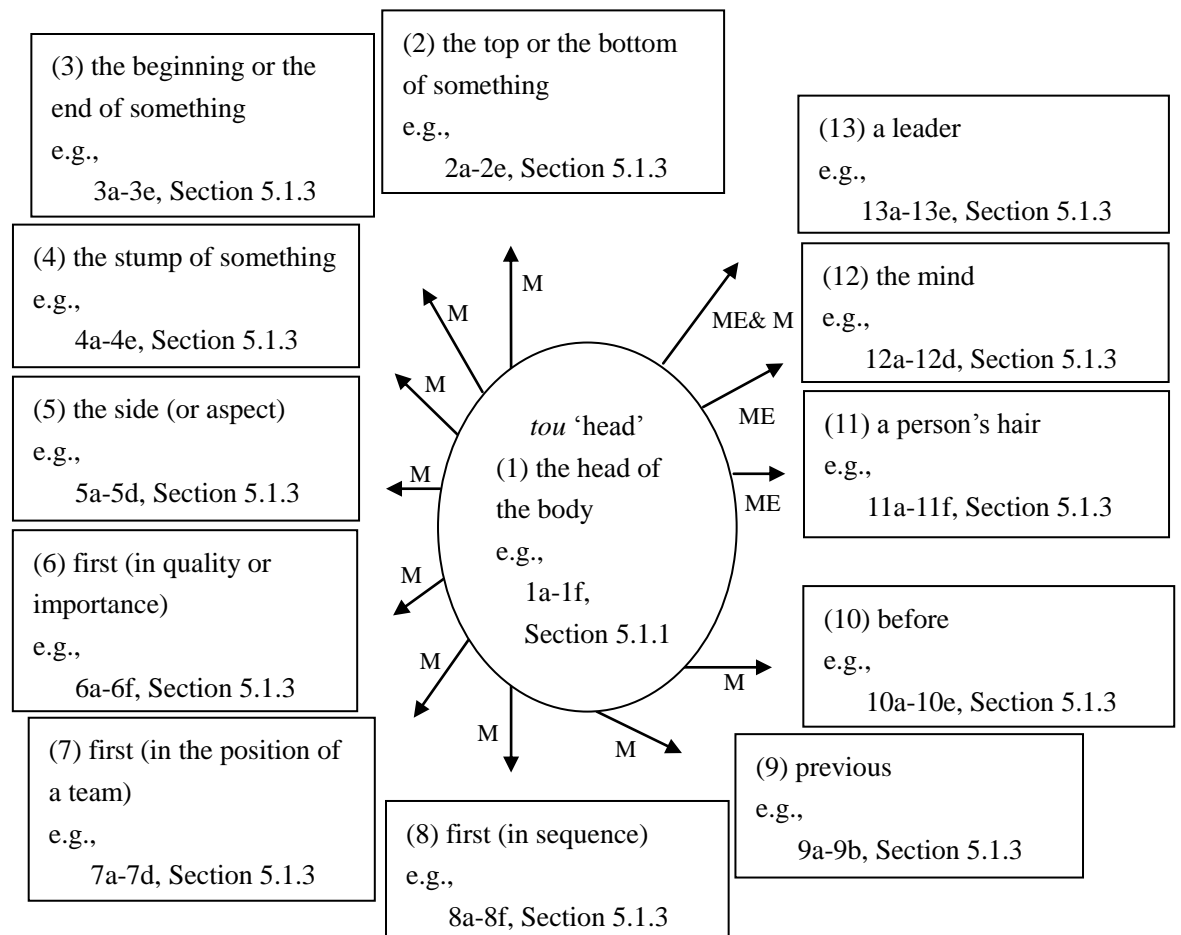
Figure 5.1: Metaphoric and Metonymic Extensions of *tou* 'head'

In more detail, there are two types of metaphor: HEAD IS A SMALL AND

GLOBULAR (OR ROUND) THING (i.e., similarity in shape) and HEAD IS THE TOP OR BOTTOM

(OR FRONT OR BACK) OF A THING (i.e., similarity in position), two types of metonymy:

HEAD FOR HAIR (i.e., the WHOLE FOR PART metonymy) and HEAD FOR MIND (i.e., the

CONTAINER FOR CONTENT metonymy), and one type of metaphtonymy: HEAD FOR

PERSON (i.e., the PART FOR WHOLE metonymy) interacts with THE TOP OR FRONT POSITION OF HEAD IS THE HIGH STATUS OF A PERSON (i.e., similarity in position).

In the light of the third research question, the author has found that the various meanings of *tou* 'head' are associated with three different parts of speech: *tou* N, *tou* ADJ and *tou* PREP. They each associate the certain part(s) of speech to mark the different meanings of this body-part term. The results identify that such structural patterns can differentiate between literal and extended meanings of *tou* 'head'.

5.2 The Analysis of Chinese Body-part Term *yan* 'eye'

In this section, the analysis of Chinese body-part term *yan* 'eye' consists of four steps: first, the meanings of *yan* 'eye' are categorized into original (literal) and extended meanings; second, the prototypical meaning is illuminated; third, the extended meanings are separately analyzed in terms of relation to the literal meaning, in other words, metaphor and metonymy are examined in terms of how they motivate meaning extension; fourth, the structural patterns of literal and extended meanings of *yan* 'eye' are formulated. The last three steps devote to answering three research questions, respectively.

5.2.1   The Original (Literal) Meaning of *yan* 'eye'

The original or literal meaning of 眼 *yan* 'eye' (or 目 *mu* 'eye', or 眼睛 *yanjing* 'eye') is "each of a pair of globular organs of sight in the head of humans and vertebrate animals" (*Xinhua Dictionary*, 2011), simply, 'the eye of the body'. The author is convinced that a great number of Chinese expressions involving *yan* 'eye' highlight the significance of our eyes, which are seen as organs of sight especially, as illustrated by the following expressions:

(1) a. 闭　　眼　(MCD, 2012) (1a, Section 5.2.1)

　　　bi　　yan

　　　close　eye

　　　'to close one's eyes'

　　b. 眯　　眼　(CCLPKU, 2009) (1b, Section 5.2.1)

　　　mi　　yan

　　　narrow eye

　　　'to narrow one's eyes'

　　c. 眨　　眼　(MCD, 2012) (1c, Section 5.2.1)

　　　zha　yan

　　　blink　eye

　　　'to blink one's eyes'

　　d. 眼　　前　(ANCCED, 2003) (1d, Section 5.2.1)

　　　yan　qian

　　　eye　front

　　　'the front of one's eyes'

　　e. 眼　　下　(CCLPKU, 2009) (1e, Section 5.2.1)

　　　yan　xia

　　　eye　bottom

　　　'the bottom of one's eyes'

In (1), the eyes have its own particular activities and directions. The expressions in (1a), (1b) and (1c) describe the various activities of the eye, such as 'closing', 'narrowing' and 'blinking'. In Chinese, they are explained literally or figuratively,

which is computed from the particular contexts. For instance, *bi yan*, literally indicating 'to close one's eyes', is figuratively conceptualized as the state of 'death'. Moreover, a Chinese idiomatic expression 闭目塞听 *bi mu se ting* (close eye stop up hear) 'to close one's eyes and stop one's ears', in which *bi mu* parallels *bi yan*, figuratively refers to 'a lack of worldly experience'. *Mi yan*, literally signifying 'to narrow one's eyes', is figuratively employed to imply 'anger or suspicion'. Z*ha yan*, literally denoting 'to blink one's eyes', is figuratively viewed as the physical measurement of time 'momentary; very short time'. The above conceptualizations are metaphoric with an apparent metonymic basis: the eye is conceptualized as an instrument that maps onto its activity, namely INSTRUMENT FOR ACTIVITY metonymy EYE FOR ITS ACTIVITY. Besides, our eyes can see the outside world from different directions, such as seeing from 'the front of the eyes' (1d) and 'the bottom of the eyes' (1e). Furthermore, (1d) and (1e) can be interpreted in a figurative way to indicate the notion of 'time': the thing that is 'just before or under one's eyes' is 'now'. The body-part term *yan* 'eye' has been conducted in the domain of 'time' in Chinese (e.g., Qin, 2008). Such figurative explanation represents the conceptual mappings between the spatial and the temporal, and the objective and the abstract. Thus, this meaning extension is metaphoric.

5.2.2   The Prototypical Meaning of *yan* 'eye'

The data show that *yan* 'eye' has one literal meaning (Sense 1) and nine extended meanings (Sense 2-10) (Table 5.3). Then, the prototypical meaning of *yan* 'eye' is illuminated. We generally cognize the eye from three facets: shape, position and function. These are deemed the apparent attributes of the eye. First, a list of attributes collected from the literal meaning is compiled to differentiate prototypical meaning

from peripheral ones. Table 5.3 illustrates distribution of attributes for polysemous

meanings of *yan* 'eye', which is composed on the basis of Rosch's (1975)

"Goodness-of-example and Distribution of Attributes in the Category BIRD" (see Table

3.1).

Table 5.3: Distribution of Attributes for Polysemous Meanings of *yan* 'eye'

Attributes Polysemous meanings	Shape		Position	Function
	small	globular (round)	near top of the head	physical / mental
(1) the eye of the body e.g., 1a-1e, Section 5.2.1	+	+	+	+
(2) the small and round hole of something e.g., 2a-2e, Section 5.2.3	+	+	-	-
(3) the drum (in the traditional Chinese opera) e.g., 3, Section 5.2.3	+/-	+	-	-
(4) the eye (in the game of *Go*) e.g., 4, Section 5.2.3	+/-	+	-	-
(5) the crux (or key point) of something e.g., 5a-5c, Section 5.2.3	-	-	+	+/-
(6) the eye's component iris or sclera e.g., 6a-6b, Section 5.2.3	-	-	-	+
(7) a detective e.g., 7a-7b, Section 5.2.3	-	-	-	+

Attributes / Polysemous meanings	Shape		Position	Function
	small	globular (round)	near top of the head	physical / mental
(8) to see e.g., 8a-8d, Section 5.2.3	-	-	-	+
(9) the emotion e.g., 9a-9m, Section 5.2.3; 2-3, Section 5.3	-	-	-	+
(10) the perception (or perspective) e.g., 10a-10h, Section 5.2.3	-	-	-	+

Sense (1) 'the eye of the body' is the literal meaning of *yan* 'eye', from which the particular attributes can be extracted to generate the common knowledge of the eye. Generally speaking, the eye can be understood from three facets: shape (i.e., small; globular (or round)), position (i.e., near top of the head), function (i.e., physical; mental). Here, the physical and mental functions of the eye need to be explained. In terms of the physical function, it indicates the physical activities of the eye. For example, the activities of 'closing', 'narrowing' and 'blinking' (as illustrated in Section 5.2.1). Besides, since the eye is a visual organ, we mostly perceive and understand the outside world through our eyes, metaphorically, the eye can be viewed as a bridge that connects the outside world and our inner world. Obviously, our mind and emotion is structured by means of what we have seen, in other words, the expressions of our eyes reveal what we are thinking and feeling about. Lakoff (1987, p.128) states that "to see something is to notice it and to know it", it further identifies that most of our knowledge is obtained through 'seeing'. In a similar vein, an old Chinese saying 眼见为实 *yan jian wei shi*

(eye see be truth) 'seeing is believing' appropriately reflects the relationship between the outside world, the eye and the mind. Therefore, the activity of 'seeing' is considered the prominent mental function of the eye. Also, Sweetser (1990) posits that there is a close relationship that exists between our vocabulary of intellect or knowledge and our vocabulary of physical perception. The eye is then conceptualized as a perceptual organ through which our perception (or perspective) is achieved.

Sense (2) 'the small and round hole of something' contains attribute 'small and round'. In Chinese culture, both the drum (in the traditional Chinese opera) (Sense 3) and the eye (in the game of *Go*) (Sense 4) resemble the eye in shape. Their surfaces are somewhat small (or big) or round. Thus, both of them display attribute 'small and round'. Sense (5) 'the crux (or key) of something' is conceptualized as reflecting attribute 'near top of the head' and 'the function of the eye'. The key point of something is the prominent part of that thing which is highlighted and shows much importance. Similarly, the position of the eye is salient in the head, and owing to the sense of sight, the eye is seen as one of the most important body parts. Sense (6) 'the eye's component iris or sclera', which is part of the eye, plays an indispensable role in the physical and mental functions of the eye. With respect to Sense (7), a detective is a person employed by someone to uncover the information not easily available to the public; such person must have 'good eyes', namely good sight and perception. Some attributes can be extracted from this concept: physical and mental functions of the eye. The last three senses, 'to see' (Sense 8), 'the emotion' (Sense 9) and 'the perception (or perspective)' (Sense 10), are conceptualized as involving attribute 'mental function of the eye'.

Compared with the attribute(s) of each extended meaning, the literal meaning of *yan* 'eye' is considered the prototypical meaning. Since the literal meaning has the highest number of attributes, while each extended meaning partly contains the attributes of the literal meaning and is interpreted by the literal one. Furthermore, it is due to the virtue of the related attributes that the literal and extended meanings are to be associated with a single lexical item *yan* 'eye'.

5.2.3   The Metaphoric and Metonymic Extensions of *yan* 'eye'

In this section, the non-literal usages of *yan* 'eye' are separately examined in terms of relation to the literal usage. The purpose is to identify those conceptual aspects of EYE which motivate its metaphoric and metonymic extensions. Besides, some extended meanings of *yan* 'eye', such as Sense 2, Sense 8 and Sense 10, have been discussed in the previous studies (e.g., Qin, 2008; Yu, 2009). This study, on one hand, makes up for their deficiencies with more examples and reasonable explanations; on the other hand, this study contributes the other extended meanings of *yan* 'eye' to clarify its meaning extension.

(2) a. 泉　　眼 (MCD, 2012) (2a, Section 5.2.3)

　　　quan　yan

　　　spring eye

　　　'the mouth of a spring'

　　b. 针　　眼 (XHD, 2011) (2b, Section 5.2.3)

　　　zhen　yan

　　　needle eye

　　　'the aperture of a needle'

c. 枪　　眼 (CCLPKU, 2009) (2c, Section 5.2.3)

qiang yan

gun　eye

'the muzzle of a gun (in a covered position)'

d. 打　　眼 (CCLPKU, 2009) (2d, Section 5.2.3)

da　　yan

beat　eye

'to drill a hole'

e. 扎　　眼 (ANCCED, 2003) (2e, Section 5.2.3)

zha　yan

prick　eye

'to drill a hole'

The eye's surface is somewhat small and round, and owing to the tunnel-like property of the pupil, which connects the eye's surface with its interior, it looks like a hole. Simply speaking, the verbal response 'eye' would generalize such attributes as 'small', 'globular', 'near top (of head)' and 'recessed'. This particular cluster of attributes then facilitates the metaphoric extension of *yan* 'eye' from "organ of sight" to 'a small and round hole of something'. The eyelike or eye-affecting concrete objects are particularly salient, and these targets seem to be animate and have force of their own, as shown in the following expressions.

In (2a), 'the mouth of a spring' is the source of running water. It is a relatively small and round aperture in the ground, which connects to an interior portion of the earth. Interestingly, in English, the body part 'mouth' is applied to indicate this

conceptualization, while the body part 'eye' is used to target that in Chinese. Based on our bodily experience, both 'mouth' and 'eye' are similar either in shape or function to some extent. The source of running water is expressed by different body parts due to the modulation of different cultures. Analogously, 'the aperture of a needle' (2b) denotes the small and round hole in the end of a needle used for threading; 'the muzzle of a gun' (2c), which looks the same as a small and round hole, is the open end of the gun where the bullets come out.

Underlying this extended meaning, *yan* 'eye' not only describes a static state, but also a dynamic situation. For instance, *da yan* (2d) and *zha yan* (2e) refer to the same meaning 'to drill a hole', in which the hole is somewhat small and round. The lexical items *da* and *zha* are two motion verbs separately mapping onto the activities of 'beating' and 'pricking', here, they turn to the activity of 'drilling'. Nevertheless, *yan* 'eye' in Chinese is related to a cultural schema that belongs to particular destructive powers to the eyes. The expressions *da yan* and *zha yan* also indicate 'to attract a person's attention by contacting with this person's eye light or eyes themselves, either intentionally or inadvertently'. Sometimes, this conceptualization results largely from 'envy or hatred', or it may be a result of sincere admiration of a person's talent, possession, or so on.

What's more, the body-part term 'eye' utilized to stand for 'a small and round hole of something' is necessarily clarified in English and Chinese. In English, the body-part term 'eye' represents 'hole in bread or cheese', since they are similar in shape. In Chinese, besides the previous usages of *yan* 'eye' exemplified in (2), some body parts can be represented by it. For example, 耳朵眼 *erduo yan* (ear eye) 'the pierced ears for

earrings', 肚眼 *du yan* (belly eye) 'belly button', and 鼻眼 *bi yan* (nose eye) 'nostril or nose channel'.

(3) 一　　板　　三　　眼　(CCLPKU, 2009) (3, Section 5.2.3)

yi　ban　san　yan

one　allegro　three　eye

'to beat allegro once and then drum three times'

In (3), *yan* 'eye' denotes 'the drum' that is played in traditional Chinese opera. Because its shape looks like the eye, *yan* 'eye' is employed to stand for 'the drum' by means of metaphor. Moreover, *yi ban san yan* is a famous idiom in Chinese. Literally, the two musical instruments *ban* 'allegro' and *yan* 'drum' are used to regulate the beats so that the Chinese opera becomes rhythmical. Figuratively, it implies that a person's actions or utterances are well-organized, that is, this person is scrupulous and methodical in doing something. Besides, it implicates that one works in a mechanical way, namely in a rigid or inflexible manner, and the person is therefore stubborn.

(4) 这　有　两　个　眼，所以　活　了。(CCLPKU, 2009) (4, Section 5.2.3)

zhe　you liang ge　yan suoyi　huo　le

this have two　CL　eye therefore win ASP

'There are two eyes, therefore (I) won.'

In (4), *yan* 'eye' refers to the terminology 'eye' in the game of *Go*. In the game of *Go*, 'eye' indicates an area that is surrounded by a set of stones of the same color, which offers one sure liberty. The group that has two eyes is alive. Such area resembles the eye in shape, *yan* 'eye' is therefore used to describe 'eye' in this game by means of

metaphor.

(5) a. 文　　眼　(MCD, 2012) (5a, Section 5.2.3)

wen　yan

paper　eye

'the key point of a paper'

b. 诗　　眼　(CCLPKU, 2009) (5b, Section 5.2.3)

shi　yan

poem　eye

'the key point of a poem'

c. 题　　眼　(CCLPKU, 2009) (5c, Section 5.2.3)

ti　yan

question eye

'the key point of a question'

The eye is applied to the top of human head, the position of which is salient and can be easily made out. Besides, owing to the sense of sight, it is viewed as one of the most important body parts, because it has the ability of connecting the outside world with our inner world as well as influencing our mind. 'One's eyes are the windows into one's heart or mind'; we perceive and understand something through what we have seen. Thus, the eye can be conceptualized as a key body part, and this is metaphorically used to emphasize 'the crux (or key point) of something'.

Let us look at the following expressions: *wen yan* (5a) refers to the key words or sentences in a paper, which can, to some extent, cover the entire content and reveal the theme of the paper. As the metaphor shows, *wen yan* is the window to the theme of an

article. It would be no exaggeration to say that to seek out *wen yan* is to understand this work. The same applies to *shi yan* (5b) and *ti yan* (5c), they separately indicate 'the key words or sentences of a poem or question', which manifest the main ideas of the poem or question.

(6) a. 他　是　个　蓝　眼睛　的　外国　人。(CCLPKU, 2009) (6a, Section 5.2.3)

ta　shi　ge　lan　yanjing　de　waiguo　ren

he　be　CL　blue　eye　MOD foreign people

'He is a foreigner with blue eyes.'

b. 她的　眼睛　哭　红　了。　(CCLPKU, 2009) (6b, Section 5.2.3)

tade　yanjing　ku　hong　le

her　eye　cry　red　ASP

'Her eyes become red because of crying.'

In (6), the eyes are regarded as having colors, such as the red or blue eyes. In fact, only a part of the eye can change colors. For example, in (6a), the iris is blue, which is the small round blue area at the centre of the eye, while most people's irises are black; in (6b), the sclera is red, which is the round part that surrounds the pupil of the eye, and its original color is white. Thus, *yan* 'eye' is applied to specify its part via the WHOLE FOR PART metonymy EYE FOR IRIS OR SCLERA. In terms of the expression *hong yanjing* (red eye) 'the red eyes', on one hand, the eye is red because of crying and its part sclera is red, implying 'sadness'; on the other hand, an angry or jealous person in Chinese culture is considered to have 'red eyes'. That *yan* 'eye' indicates 'the emotion' will be illustrated in detail in (9).

(7) a. 眼　目 (XHD, 2011) (7a, Section 5.2.3)

　　yan　mu

　　eye　eye

　　'the detective'

　b. 耳　目 (MCD, 2012) (7b, Section 5.2.3)

　　er　mu

　　ear　eye

　　'the detective'

The eye is a part of human body, in (7), *yan* 'eye' (or *yan* 'eye' and *er* 'ear') is used to stand for 'a detective' via the PART FOR WHOLE metonymy EYE FOR PERSON. A detective is a person employed by someone to find out information about somebody or something, so to be a detective is to have good sense of sight and hearing. Therefore, *yan* 'eye' (and *er* 'ear') can be employed to indicate the notion of 'detective'. In (7a), two characters *yan* and *mu*, which are two counterparts of English word 'eye', form the compound. In Chinese, two different (or same) characters with the same meaning are to be combined together to form a word in order to emphasize the remarkable meaning of the word. In (7b), two body-part terms *yan* 'eye' and *er* 'ear' are put together to stand for 'a person'. In Chinese, another two body-part terms 手 *shou* 'hand' and 足 *zu* 'foot' combine to refer to *shou zu* (hand foot) 'brothers'. Both hands and feet are important to a person, and it is hard for a person to live without them. Analogously, the strong affection between brothers is likened to the importance of hands and feet to a person.

Many Chinese body-part terms can be utilized to indicate 'a person' through metonymy, but the 'property' of person is differentiated based on the 'property' of body part. The following body-part terms each imply 'a person':

a. 脸 *lian* (face) or 面 *mian* (face) 'person, with emphasis on social identity and outer self' (see e.g., Yu, 2001)

b. 手 *sho*u (hand) 'person, with emphasis on skill and capability of doing things' (see e.g., Yu, 2003)

c. 心 *xin* (heart) 'person, with emphasis on cognition and inner self' (see e.g., Yu, 2009)

d. 嘴 *zui* (mouth) or 口 *kou* (mouth) or 舌 *she* (tongue) 'person, with emphasis on characteristics of speaking or talking' (see e.g., Yu, 2011)

In English, the above body-part terms can also be applied to refer to 'a person'. The following are some sentential examples (*A New Century Chinese-English Dictionary*, 2003). The expression 'A couple of European faces are standing in the front of us' lays stress on the designees' race. The expression 'Our factory needs some new hands now' places the emphasis of the working skills on the part of the new employees. The expression 'Every Chinese is a heart' argues that the heart, which is considered as the central part of cognition and location of the inner self in Chinese context, is able to stand for the whole person on the basis of metonymic conceptualization. Similarly, the expression 'He is the first mouth of the White House' refers to the spokesperson in the White House.

(8) a. 看 一 眼 (CCLPKU, 2009) (8a, Section 5.2.3)

　　kan yi yan

see one eye

'to see (something)'

b. 瞪　　一　眼　(CCLPKU, 2009) (8b, Section 5.2.3)

deng　yi　yan

glare at one　eye

'to glare at (something)'

c. 瞥　　　一　眼　(CCLPKU, 2009) (8c, Section 5.2.3)

pie　　yi　yan

glance at one eye

'to glance at (something)'

d. 瞅　　一　眼　(CCLPKU, 2009) (8d, Section 5.2.3)

chou　yi　yan

look at one eye

'to look at (something)'

In (8), *yan* 'eye' indicates 'to see'. That the eye can see the outside world is considered one of the functions or activities of the eye. Therefore, the eye can be conceptualized as an instrument that maps onto its activity of 'seeing', which is achieved via the INSTRUMENT FOR ACTIVITY metonymy EYE FOR SEEING. Underlying this conceptualization, *yan* is used as a verb and parallels the English usage 'to eye someone or something'. In Chinese, *yan* is generally placed after a combination of an eye-related verb, such as *kan* (8a), *deng* (8b), *pie* (8c), and *chou* (8d), and a numeral expression, such as *yi* 'one', *liang* 'two', and　*ji* 'several'. In terms of the eye-related verbs, *kan* 'to see' is a non-deliberate verb, implying that a person sees someone or something

casually or inadvertently, while *deng* 'to glare at', *pie* 'to glance at' and *chou* 'to look at' are deliberate verbs, implying that an individual plans or decides to see someone or something, so this happens intentionally rather than by chance.

(9) a. 笑　　眼　(CCLPKU, 2009) (9a, Section 5.2.3)

xiao　*yan*

smiling eye

'be happy'

b. 怒　　目　(ANCCED, 2003) (9b, Section 5.2.3)

nu　*mu*

angry　eye

'be angry'

c. 急　　眼　(CCLPKU, 2009) (9c, Section 5.2.3)

ji　*yan*

anxious eye

'be anxious'

d. 傻　　眼　(MCD, 2012) (9d, Section 5.2.3)

sha　*yan*

stupid eye

'be dumbfounded; be stunned'

e. 冷　　眼　(CCLPKU, 2009) (9e, Section 5.2.3)

leng　*yan*

cold　eye

'be contemptuous; be indifferent'

f. 白　　　眼　(CCLPKU, 2009) (9f, Section 5.2.3)

bai　　*yan*

white　eye

'be supercilious; be contemptuous'

g. 红　　　眼　(MCD, 2012) (9g, Section 5.2.3)

hong　*yan*

red　　eye

'be infuriated; be jealous; be green-eyed'

A common use of the body-part term *yan* 'eye' in Chinese is associated with expressing emotions of various kinds such as happy, angry, anxious, and jealous. This conceptual mapping is motivated by conventional conceptual knowledge. For example, when an individual is excited or feels sad, this person's eyes shine or are cast down, respectively. It is easier for us to feel the changes of eyes rather than the other body parts when the different emotions arise. A saying 'one's eyes are the windows into one's heart / mind' indicates that the expressions of a person's inner emotions are replaced by the expressions of eyes. So people naturally connect eyes with emotions, though this is physiologically incorrect. As the above expressions shown, *yan* 'eye' is used to stand for 'a person's emotion' via EYE FOR EMOTION metonymy, which is a kind of INSTRUMENT FOR ACTIVITY metonymies.

In (9), the compounds containing various adjectives are utilized to modify the lexical item *yan*. In (9a), *xiao yan* describes the positive emotion. In more detail, when a person feels happy, the corners of the eyes are upturned, and the eyes gleam with vigor. For example,

笑　　眼　　相　　　迎 (CCLPKU, 2009) (9h, Section 5.2.3)

xiao　yan　xiang　　ying

smiling eye　each other　greet

'Happily greet each other.'

On the contrary, if one has *nu mu* (9b), implying 'the emotion of anger', one keeps eyes wide open and glares at someone or something. For instance,

这　两　个　人　　关系　　不　好，总是　　怒　目　　相向。(CCLPKU, 2009) (9i, Section 5.2.3)

zhe liang ge　ren　　guanxi　　bu　hao, zongshi　nu　mu　xiangxiang

this two　CL person relationship NEG good, always angry eye glare at each other

'The relationship between these two people is not good, and they always glare at each other.'

As for a person with *ji yan* (9c), this person looks around and cannot calm down. For example,

她　急　眼　时，　话　也　　不会　说　　了。　(CCLPKU, 2009) (9j, Section 5.2.3)

ta　ji　yan　shi,　hua　ye　buhui　shuo　le

ta anxious eye when, word　also　NEG　speak　ASP

'When she is anxious, she also cannot speak any words.'

If an individual is dumbfounded or stunned, this person has *sha yan* (9d) and his or her eyes, at that moment, cannot blink and become pale. For instance,

当　他　看到　考　　卷，　顿时　　傻　　眼　了。(CCLPKU, 2009) (9k, Section 5.2.3)

dang ta   kandao   kao   juan, dunshi   sha   yan   le

when he   see   examination paper, immediately   stupid   eye   ASP

'When he sees the examination paper, he is dumbfounded immediately.'

In (9e), *leng yan* denotes that someone glances at another one out of the corners of his or her eyes, and such look is intentional, which demonstrates an indifferent and casual attitude. For example,

我 在   别人 的 冷   眼   中 长大。 (CCLPKU, 2009) (9l, Section 5.2.3)

wo zai   bieren de   leng   yan zhong zhangda

I   in   others POSS cold   eye   in   grow up

'I am growing up in others' indifference.'

Moreover, *yan* 'eye' is modified not only by the dynamic adjective indicating human character trait, but also by the static adjective indicating color. In (9f), 'white eyes' literally denotes 'the whites of the eyes'. If someone has supercilious or contemptuous eyes, it reflects much of their whites. For instance,

失去 爱情，丢了 工作，她 感觉 到处   是 白   眼   和 嘲讽。 (CCLPKU, 2009) (9m, Section 5.2.3)

shiqu aiqing, diule gongzuo, ta   ganjue daochu   shi bai   yan   he chaofeng

lose love, lose   job,   she   feel   everywhere is white eye   and taunt

'Having lost love and job, she feels that supercilious looks and taunts are everywhere.'

In Chinese culture, an angry or jealous person is said to have 'red eyes' (9g), as often as not, their eyes are not really bloodshot. The one who is envious or jealous of

somebody or something is humorously considered having 红眼病 *hong yan bing* (red eye disease) 'the red-eye disease', it is a professional terminology for conjunctivitis. However, covetousness is actually a kind of disease. Interestingly, in English, an envious or jealous person is 'green-eyed' rather than 'red-eyed'. In Chinese, some expressions containing the body-part term *yan* 'eye' can also refer to the meaning of 'envy or jealousy', which are synonyms to *hong yan* (9g). For instance, 眼红 *yan hong* (eye red), 眼热 *yan re* (eye hot), and 眼馋 *yan chan* (eye greedy). The usages of 'red eyes' will be explained in detail in Section 5.3.

It should be mentioned that the conceptualization of 'envy' might differ from one culture to another. For instance, Swartz (1998, p.30) observes the relation between eye and envy in Mombasa Swahili and sustains that for these speakers, "envy begins in the eyes that see what is desirable, is experienced and influenced in the heart where the desire to have what the other has is produced and may find expression through the tongue thus spreading and increasing the envy". However, the motivation behind the connection between eye and envy here appears to be metonymic, as perception is regarded as the primary trigger of envy.

(10) a. 眼　　力　(MCD, 2012) (10a, Section 5.2.3)

　　　yan　　li

　　　eye　　power

　　　'the perception'

　　b. 眼(目)　光　(XHD, 2011) (10b, Section 5.2.3)

　　　yan(mu) guang

　　　eye　　　light

'the perception'

c. 眼　光　　锐利 (CCLPKU, 2009) (10c, Section 5.2.3)

yan guang　ruili

eye light　　sharp-pointed

'the sharp eyes'

d. 目　光　　远 大 (MCD, 2012) (10d, Section 5.2.3)

mu guang yuan da

eye light　far big

'be farsighted; be farseeing'

e. 目　光　　短　　浅 (MCD, 2012) (10e, Section 5.2.3)

mu guang duan　qian

eye light　short shallow

'be shortsighted'

f. 历史　　眼　光 (CCLPKU, 2009) (10f, Section 5.2.3)

lishi　yan guang

history eye light

'the historical perspective'

g. 政治　　眼　光 (CCLPKU, 2009) (10g, Section 5.2.3)

zhengzhi yan guang

politics　eye light

'the political perspective'

h. 艺术　家　　的　　眼　光 (CCLPKU, 2009) (10h, Section 5.2.3)

yishu　jia　　de　yan guang

art   SUFF   POSS   eye light

'the artist's perspective'

In modern Chinese, the body part *yan* 'eye' and the activity of 'perception' are closely and frequently related to each other. In (10), *yan* 'eye' is used to stand for 'the perception (or perspective)'. Owing to the sense of sight, the eye maps onto 'sight' via the PART FOR PART metonymy EYE FOR SIGHT. Because sight is seen as the most dependable faculty of perception, the first metonymy EYE FOR SIGHT is therefore extended by the second metonymy the SUB-CATEGORY FOR SUPER-CATEGORY metonymy SIGHT FOR PERCEPTION.

In (10a), 'eye power' does not imply that the eye has power; conversely, 'power' agrees with one's perception. If such power is strong, a person has talents in discovering the nature of something; if it is weak, this person lacks the ability to perceive and understand the knowledge of something. In a similar vein, 'eye light' (10b) indicates one's perception. In Chinese, sight is conceptualized as having 'light' and guides the directions of the eyes. As known, the eyes' 'brightness' is thought highly of, since a person's mental capacity is calculated based on how 'bright' his or her eyes are. If an individual 'sees' brightness, this person has wide vision and much wisdom; if an individual 'sees' in the dark, this person lacks intellect and only sees what is right in front of his or her eyes. Thus, *yan li* and *yan guang* in Chinese are usually modified by such adjectives as 好 *hao* 'good', 差 *cha* 'bad' or 没 *mei* 'no'.

Besides, *yan guang* or *mu guang* (10b) are usually modified or predicated by the adjectives such as 锐利 *ruili*, 远大 *yuan da*, and 短浅 *duan qian*. As shown in (10c), 锐利 *ruili*, which has two counterparts 犀利 *xili* and 锋锐 *fengrui*, refers to

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'sharp-pointed or sharp-edged'. This notion is related to weapons such as bayonets and swords. Therefore, the above descriptive modifiers (adjectives) are metaphorically used as a spur to 'eye light' in order to get properties encoded in metal weapons. The expression 'the sharp eyes' implies that someone has great vision and wisdom. If *yan guang* or *mu guang* is predicated by 远大 *yuan da* (far big) or 长远 *chang yuan* (long far), it means that someone is 'farsighted or farseeing' (10d). Conversely, if *yan guang* or *mu guang* is described as being 'short and shallow', it implies that someone is 'shortsighted' (10e), and he or she has short vision and poor wisdom. It should note that these expressions actually denote a person's mental capability instead of physical eyesight.

Furthermore, different people have different perspectives about different things. For example, the historian will employ historical perspective to understand things (10f), similarly, the politician will use political perspective to judge things (10g), and the artist will adopt the art perspective to appreciate things (10h). Thus, the relationship that exists between the eye and the perception (or perspective) is rooted in our bodily experience.

5.2.4 The Structural Patterns of Literal and Extended Meanings of *yan* 'eye'

In the compounds containing *yan* 'eye', the lexical items immediately left and right to the target term *yan* 'eye' are categorized on the basis of their parts of speech (Table 5.4). The sample compounds are attached to the structural patterns.

Table 5.4: Structural Patterns of Literal and Extended Meanings of *yan* 'eye'

Parts of speech	Extended meanings				
	Literal meaning				
yan N	yan–N 眼 前 *yan qian* eye front 'the front of one's eyes'	V–yan 闭 眼 *bi yan* close eye 'to close one's eyes'	N–yan 针 眼 *zhen yan* needle eye 'the aperture of a needle'	ADJ–yan 笑 眼 *xiao yan* smiling eye 'be happy'	NUM–(CL)–yan 三 眼 *san yan* three eye 'to beat drum three times' 两 个 眼 *liang ge yan* two CL eye 'the terminology in the game of *Go*'
yan N	眼 力 *yan li* eye power 'the perception'	打 眼 *da yan* beat eye 'to drill a hole'			
yan V	V–(NUM)–yan 瞪 一 眼 *deng yi yan* glare at one eye 'to glare (at something)'				

The meanings of *yan* 'eye' are associated with two different parts of speech: *yan* N and *yan* V. in detail, *yan* N is represented in Sense (1-7, 9-10), *yan* V is represented in Sense (8).

The literal *yan* is used as a noun, while the extended *yan* can be used as a noun or verb. Since *yan* as a noun can indicate both literal and some extended meanings in its compounds, these compounds share the same structural patterns (i.e., yan–N and V–yan). The literal usages of *yan* generally take nouns as right-side associates and verbs as left-side associates. The extended usages of *yan* are differentiated on the basis of its various parts of speech. If *yan* is treated as a noun, nouns trigger its extended interpretation at both the right and left sides, and verbs, adjectives, and numerals are found to the left of it. However, classifiers in Chinese are more often found between numerals and nouns. If *yan* acts as a verb, verbs encourage its extended interpretation at the left side. However, numerals are more often found between two verbs.

5.2.5 Summary

According to the analyses of Chinese body-part term *yan* 'eye', three research questions (see Section 1.3) are separately answered.

In terms of the first research question, the original or literal meaning of *yan* 'eye' is 'the eye of the body'. Compared with the attributes of each extended meaning, the literal meaning predominantly has the highest number of attributes, and it is therefore regarded as the prototype among the ten meanings of this body-part term.

Obviously, according to the distribution of attributes of polysemous meanings of *yan* 'eye' (see Table 5.3), Chinese speakers prefer the shape and function of the eye, because most of the extended meanings are derived by emphasizing these two apparent attributes. The eye, on one hand, is prominent in its shape, namely small and globular (or round); on the other hand, the eye is conceptualized as an individual that has ability of performing activities and is independent of its possessor's volition. For example, the

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eye can see (owing to the sense of sight), the eye can express a person's emotion, and the eye is the entrance of one's perception (or perspective). As the shape and function are taken as the predominant attributes of the eye, they are supposed to have privileged access to the interpretation of relation between the literal and other extended meanings of *yan* 'eye', except what the author has exemplified in this study.

As for the second research question, metaphor and metonymy are examined as two major processes of meaning extension that exist between the literal and extended meanings of *yan* 'eye'. Category extension of *yan* 'eye' is much clearer in Figure 5.2 (M = Metaphor, ME = Metonymy). As we see, metonymy is the major conceptual mapping for motivating meaning extension of *yan* 'eye'. Since four extended meanings are achieved on the basis of the literal meaning through metaphor, while five extended meanings are derived through metonymy.
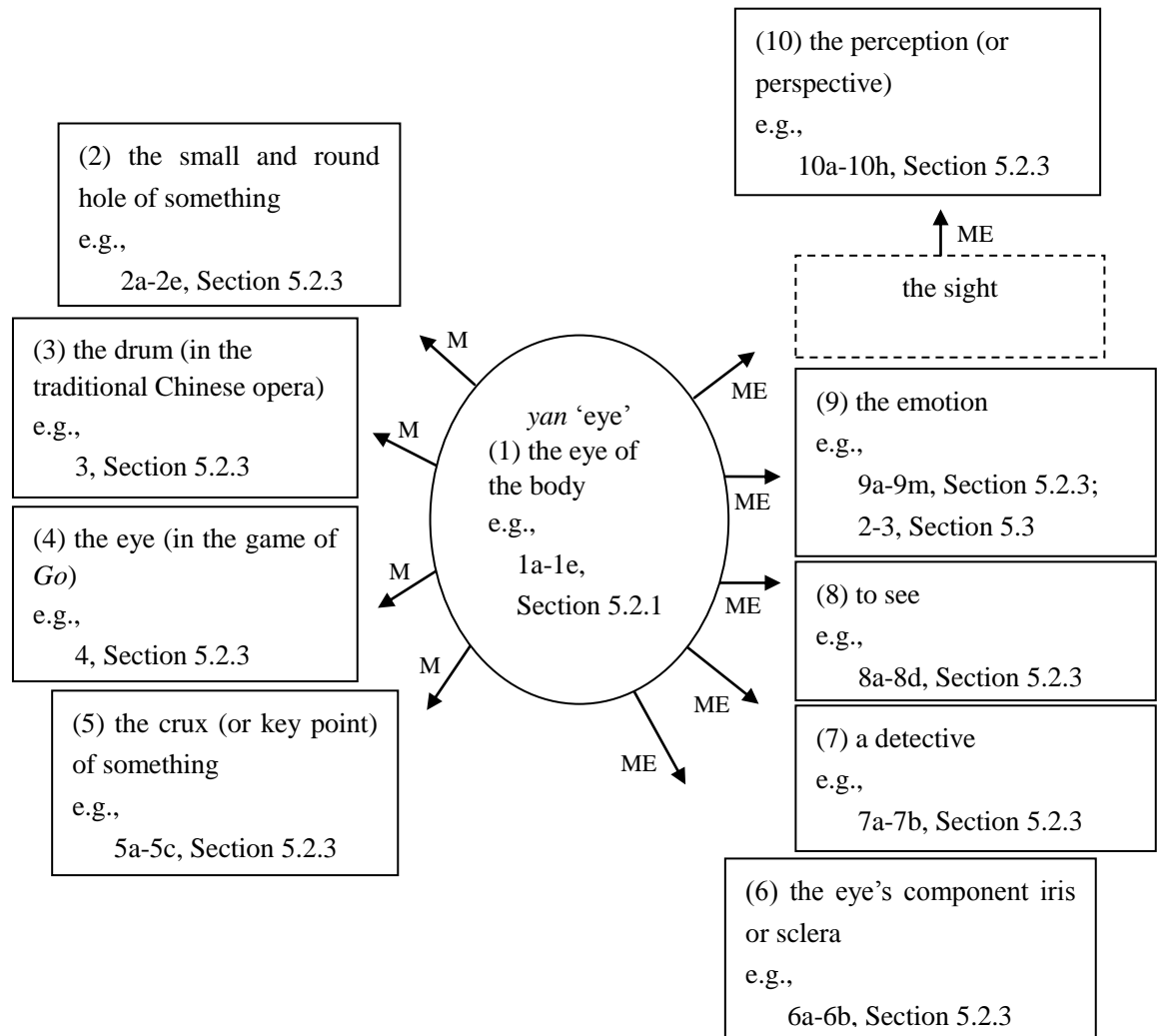
Figure 5.2: Metaphoric and Metonymic Extensions of *yan* 'eye'

In more detail, there are two types of metaphor: EYE IS A SMALL AND ROUND HOLE OF A THING (i.e., similarity in shape) and EYE IS THE SALIENT PART OF A THING (i.e., similarity in position), and five types of metonymy: EYE FOR IRIS OR SCLERA (i.e., the WHOLE FOR PART metonymy), EYE FOR PERSON (i.e., the PART FOR WHOLE metonymy), EYE FOR SEEING (i.e., the INSTRUMENT FOR ACTIVITY metonymy), EYE FOR EMOTION (i.e., the INSTRUMENT FOR ACTIVITY metonymy), and EYE FOR PERCEPTION (i.e., the PART FOR PART metonymy EYE FOR SIGHT is extended by the SUB-CATEGORY FOR SUPER-CATEGORY metonymy SIGHT FOR PERCEPTION).

In light of the third research question, the author finds that the various meanings of *yan* 'eye' are associated with two different parts of speech: *yan* $_N$ and *yan* $_V$. They each associate the certain part(s) of speech to mark the different meanings of this body-part term. The results show that such structural patterns can differentiate between literal and extended meanings of *yan* 'eye'.

5.3 The Further Discussion of the Construction of Polysemy

Based on the cognitive-linguistic analyses of two Chinese body-part terms *tou* 'head' and *yan* 'eye', the author will further discuss the construction of polysemy.

First, the meanings of a polysemous word are closely related and form a semantic network, as shown in Figure 5.3.
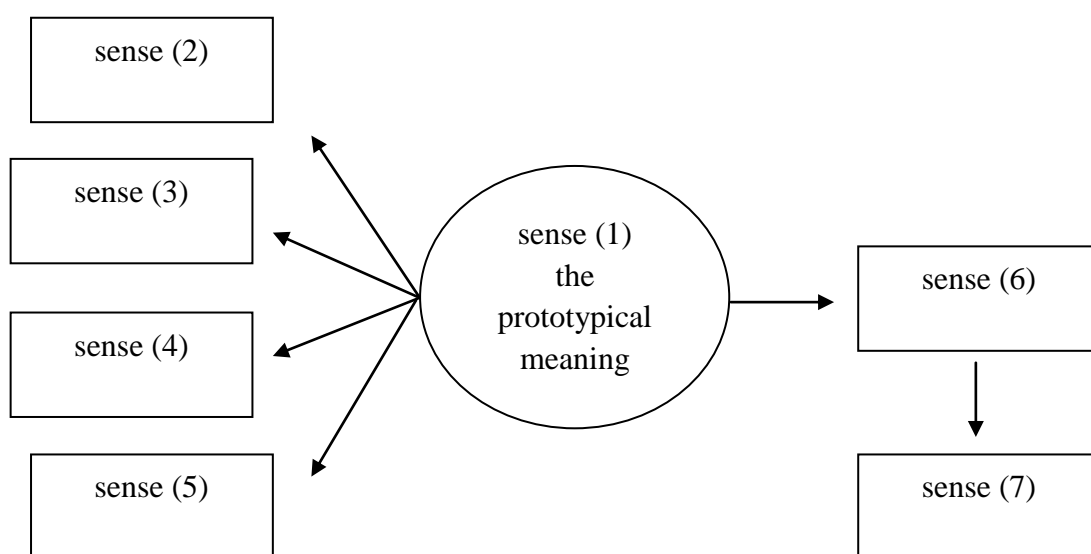

Figure 5.3: Semantic Network of a Polysemous Word

The meanings of a polysemous word constitute the nodes of the semantic network, in which the lowest node is the prototypical meaning (Sense 1), while the highest node is the meaning (Sense 7) that moves away from the prototypical one by

successive shifts until there is no direct connection between them. The non-prototypical meanings radiate out from as well as cluster around the prototypical one.

Besides, each of the polysemous meanings can itself construct a prototype structure, such as Sense (6). Sense (6) is regarded as a prototype when it is compared with Sense (1) and Sense (7), since it is at the centre, and Sense (1) and Sense (7) are related to and cluster around it. Then, we can safely conclude that Sense (6) is a category member who has the highest number of attributes, while the other two category members Sense (1) and Sense (7) partly reflect the attributes of Sense (6) and can be traced back to and explained by Sense (6), Sense (6) influences the choices of them. Also, it is in virtue of the similar attributes that these three senses are to be grouped in a category.

The whole semantic network can be taken as the super-category, in which Sense (1) is the super-prototype, while the category containing Sense (1), Sense (6) and Sense (7) can be taken as the sub-category compared with the super-category, in which Sense (6) is the sub-prototype compared with the super-prototype. As we see, the semantic network of a polysemous word is prototype-based.

Second, it is true that the meanings of a polysemous word are related in a semantic network. Here, the question how we define the notion of 'relatedness' arises. Through the discussion of distribution of attributes for polysemous meanings of *tou* 'head' and *yan* 'eye' (as shown in Table 5.1 & Table 5.3), the author finds the extended meanings of each body-part term share few attributes, and are more distinct from each other. Nevertheless, they each are closely related to the original (or literal) meaning. Thus, although the non-prototypical meanings of a polysemous word, which are viewed

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as the variants of the prototypical meaning, have few attributes in common, they can be grouped together owing to the relation to the prototypical one. In this sense, the meanings of a polysemous word are pairwise related rather than entirely related, and then, the notion of 'relatedness' indicates a pair of meanings rather than the entire set of meanings that are related.

Of course, one cannot take for granted that any pair of non-prototypical meanings is definitely independent of each other. Sometimes, one non-prototypical meaning could be related to the other in terms of how we interpret their relatedness. For example, two extended meanings of *tou* 'head' – 'the top or the bottom of something' and 'a leader' – can be conceptualized as sharing attributes 'top position', and they are therefore associated with each other and form a new category, which is different from the original category taking into consideration of the role of 'head'. Since the new attribute 'top position' is not the attribute 'top position' shared by the literal and these two extended meanings of *tou* 'head'.

Third, another issue should be mentioned. The various meanings of polysemous words are 'related' rather than 'similar'; they have their own separate representations. For example, *tou* in *yao tou* (shake head) 'to shake one's head' and *shu tou* (comb head) 'to comb one's head' separately refers to 'head of the body' and 'a person's hair'. The former is the literal meaning of *tou* 'head', and the latter is one of the extended meanings. Such two meanings are ontologically different things and belong to different lexical entries. One of them has different sense organs, and is a certain shape (small and globular); the other has a color, length and style. Both of them cannot be said about one another: the head cannot be combed, and the hair cannot shake. It is hard to find a core

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meaning (concept) in the lexicon to cover these two meanings, since the head has little semantic overlap with the hair, even if there is a conceptual relation between the two meanings, namely the hair is a part of the head. Thus, the polysemous meanings are cognitively related rather than have similar semantic features, and they in fact represent different things.

Fourth, in terms of the non-prototypical meanings of polysemous words, they are not pre-stored. When we encounter the single item *yan* 'eye', the meaning 'eye of the body' may be evoked probably because of origination and being frequently-used. The other meanings of *yan* 'eye' are somewhat difficult to evoke in this stage. In this study, the author has examined that metaphor and metonymy are two processes of meaning extension, that is, the non-prototypical meanings can be smoothly achieved by means of these two cognitive mechanisms. Nevertheless, the figurative meanings of a polysemous word cannot be interpreted independently by the metaphoric and metonymic extensions but are rather processed and triggered from the related contexts. For instance,

(1) 红　　眼睛　(MCD, 2012)

hong yanjing

red　　eye

'the red eyes'

(2) 当　他　想起　他的　去世的　母亲，他的　眼睛　红　了。 (CCLPKU, 2009) (2, Section 5.3)

dang ta xiangqi tade qushide muqin, tade yanjing hong le

when he remember his deceased mother, his eye red ASP

'When he remembers his deceased mother, his eyes become red.'

(3) 当　　公主　　看到　　比　她　漂亮的　　女孩，她的　眼睛　红　了。
(CCLPKU, 2009) (3, Section 5.3)

dang gongzhu kandao　bi　　ta　piaoliangde nvhai, tade　yanjing hong le

when　princess　see　than　she　pretty　girl　her　eye　red ASP

'When the princess sees the girl who is prettier than her, her eyes become red.'

In (1), *yanjing* 'eye' indicates the component 'sclera' or 'emotion', which is computed from the particular context. Such as, in (2), the eye becomes red because of crying and its part 'sclera' is red, which implies 'the emotion of sadness'; in (3), the expression *hong yanjing* implies 'the emotion of anger or envy'.

CHAPTER 6

CONCLUSION

This study, from a cognitive point of view, examines the internal relationships among the meanings of polysemous words through an in-depth examination of Chinese body-part terms, namely *tou* 'head' and *yan* 'eye', and has answered three research questions (see Section 1.3), as seen below.

First, the original meanings of body-part terms *tou* 'head' and *yan* 'eye' separately refer to the body parts 'head' and 'eye', which can also be regarded as the literal meanings. Based on the collection of data, this study analyzes twelve extended meanings of *tou* 'head' and nine extended meanings of *yan* 'eye'. Actually, the meanings of each body-part term illustrated in this study are representative and ubiquitous in our everyday language. Also, these meanings in modern Chinese are far more extensive than those collected.

Besides, each body-part term is composed of various related meanings; among these are a prototypical or literal meaning and peripheral or extended meanings. As we see that the literal meaning of each body-part term has the highest number of attributes compared with that of the extended meanings. Thus, the literal meaning is considered the prototypical meaning. Obviously, the multiple meanings of each body-part term are grouped together owing to the related attributes and form a semantic category, and they are to be associated with a single lexical item *tou* 'head' or *yan* 'eye'. Besides, the extended meanings of each body-part term are typically derived by emphasizing the apparent attributes of the literal meaning, such as shape, position and function. The more prominent a certain attribute, the more extended meanings obtained from that

attribute. For instance, Chinese speakers prefer to target the position and function of *tou* 'head' and the shape and function of *yan* 'eye'.

Second, the formation of meanings of each body-part term is a process of category extension, and metaphor and metonymy are two important cognitive mechanisms for category extension. Although both metaphor and metonymy are figures of speech, a metaphor is considered a substitution of one concept with another while metonymy associates one concept with another. Thus, the comparison in a metaphor is based on similarities, while the comparison in a metonymy is based on contiguity. Nevertheless, they play different roles in the extension of word meanings. For example, metaphoric extension is highlighted in the formation of the meanings of *tou* 'head', while metonymic extension is highlighted in the formation of the meanings of *yan* 'eye'. Moreover, metaphor and metonymy can combine to spur meaning extension, and metaphor is based on metonymy.

Third, this study analyzes the structural patterns of literal and extended meanings of *tou* 'head' and *yan* 'eye'. The meanings of each body-part term are associated with different parts of speech, establishing highly entrenched structural patterns to directly differentiate literal and extended meanings of each body-part term.

As we know, this study is based on the theories in the framework of cognitive linguistics, which have provided the theoretical bases for the study of polysemy. Inspired by the notion of 'categorization' in cognitive linguistics, the multiple meanings of each body-part term are grouped together and constitute a single polysemous category because they are related to each other, that is, they are conceptualized as having some related attributes. However, the meanings as category members in this

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polysemous category are assigned a degree ranging from prototype to peripheries, in other words, the prototypical meaning is placed at the central position and surrounded by less central (or peripheral) meanings, which is well-documented through the prototype model of categorization. This study has shown that the prototypical meaning of each body-part term is original or literal meaning, which refers to body part itself and has the highest number of attributes, whereas the peripheral meanings of each body-part term are extended meanings, which conceptually highlight part of attributes of the literal meaning but do not contain all the attributes of the literal one. In fact, such polysemous category is constructed because the literal meaning as a prototype that leads the way for the formation of the extended meanings, that is, the extended meanings each must have some related attributes with the literal meaning. Therefore, based on the definition of polysemy (see Section 3.1), the relationship to be examined is conducted between the literal and extended meanings. This study has found that the semantic extension of the literal meaning of each body-part term to the extended meanings is driven by human cognition, such as metaphor and metonymy. These two cognitive mechanisms make great contribution to the formation of polysemy and further integrate the multiple meanings of a polysemous word as a whole. Furthermore, according to the cognitive science, language meaning and form interact with each other. So this study not only considers the change of meanings of each body-part term, but also the change of their corresponding structural patterns. It is true that language form is based on language meaning, since the form of an expression is valid if and only if the mind has the ability to make out its meaning. However, in this study, the formulation of structural patterns can also contribute to the distinction between literal and extended meanings of each

body-part term.

Interestingly, underlying the cognitive-linguistic analysis of Chinese body-part terms, this study observes that the meanings of a polysemous word are closely related and form a prototype-based semantic network. However, the polysemous meanings have few attributes in common and have their own separate representations. Also, the polysemous meanings are not interpreted independently by the metaphoric and metonymic extensions but are contextually or culturally modulated.

Context plays a significant role in motivating the production of new meanings of a lexical item as well as clarifying the subtle differences between words with similar meanings. Also, language meaning, which is figurative in nature, results from the interaction between our body and culture. The body provides an abundant source to organize various ideas and concepts to build the metaphoric and metonymic structures. At the same time, culture establishes the particular opinions, from which the certain parts of bodily experience or the certain aspects of body are to be typically prominent and meaningful in understanding of those ideas and concepts. "The exploration of the bodily basis and cultural dynamics of language and thought can shed light on the universal and culture-specific aspects of culture that shape the dimensions of cognition" (Dirven, Wolf & Polzenhagen, 2007).

In fact, human cognition is embodied in nature. It is our body that interacts with the environment in which we live and then influences the ways we think and speak. Besides, when our body moves in the socio-physical world, it is integrated with culture. This study not only discusses the relationship between human language, mind and body, but also offers insight into the interaction between the embodied experience and culture

in Chinese context. In terms of category extensions 'metaphor and metonymy', they are based on the immediate bodily experience with human body or body parts, such as 'head' and 'eye' in this study. In this sense, meaning is seen as the extension of bodily experience by means of human cognition, which is constructed by metaphoric and metonymic thinking. This study supports that "our living body has served as a semantic template in the evolution of our language and thought" (Sheets-Johnstone, 1990).

More importantly, this study leans on qualitative research to guide the whole study, and qualitative approach paves a way for an in-depth examination of the internal structures of meanings of polysemous words. As we see, the data in this study are not in the form of numbers but are attempted to be interpreted and analyzed deeply from a cognitive point of view. Language lies in our mind, and thus the cognitive approach used to interpret and analyze language is qualitative in nature. Moreover, based on the findings of this study, polysemous words, especially body-part terms, have multiple figurative meanings, and these metaphoric and metonymic meanings are culturally and socially defined; however, they also display an essential cognitive strategy of analogical problem solving. Metaphors and metonymies are context-sensitive, but at the same time, are viewed as abstract models of reality much in the same way as mental models. The multifaceted properties of metaphors and metonymies license the study of interaction between cognition and culture in open and qualitative research design. Therefore, cognitive approach and qualitative research are complementary, and a method of qualitative research is the most workable system in the cognitive-linguistic study of polysemy.

In general, this study attempts to impress readers by providing precise data to analyze the nature of polysemy through taking Chinese body-part terms *tou* 'head' and *yan* 'eye' as object and demonstrating its success in utilizing qualitative research method to control the whole study. The elaborate tables and figures about the results illustrated in this paper are also comprehensive. Despite the fact that the issue of polysemy has already been investigated among different disciplines by previous researchers, this study demonstrates its significance in its practical relevance to meaning interpretation underlying the cognitive linguistics framework. The findings of this study might be of Chinese communicative help and significance to those interested in polysemy in general and body-part terms in particular. In addition with its attributions and significances, the cognitive-linguistic analysis in this study is open to criticism.

Last but not least, I hope that the present study can inspire further research on Chinese body-part terms *tou* 'head' and *yan* 'eye'. First, the future research will collect more data related to these two Chinese body-part terms to make a full-scale discussion of internal relationships among the meanings of polysemous words. Since the number of instances in this study is somewhat limited. Second, both qualitative and quantitative research methods will be utilized in a cognitive-linguistic approach to these two Chinese body-part terms. On one hand, underlying the qualitative analysis of data, the cognitive mechanisms for category extension encoded in the meanings of each body-part term are examined. In order to identify the most productive process of semantic extension, on the other hand, the quantitative operation will be conducted. Besides, with the quantitative method of data, the extended meanings of each body-part term will be separately counted in terms of the frequency of occurrence. The same

applies to the structural patterns of the meanings of each body-part term. They each are quantitatively tested in order to make the results of the future study more valid and reliable.

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